

TOP TIPS FOR AMAZING PORTRAITS

POPULAR PHOTOGRAPHY

**CAPTURING THE
RAINFOREST:
HOW TO GET
THE SHOT**



YOUR FAVORITE GEAR

Readers reveal
what they use
most to shoot...

- **LANDSCAPES**
- **NATURE**
- **PEOPLE**
- **AND MORE**

P.56

CLEANING KIT

MEMORY CARD

REMOTE
TRIGGER

FLASH UNIT



**Updated
Classic**
**Olympus OM-D
E-M5 Mark II**
**Full Lab &
Field Test** P.69



**+ PHOTO
PROJECTS**
New ways to
light, shoot,
and edit
your images

Exceptional Images

Deserve an Exceptional Presentation

Images by Stephen W. Oachs, Jessica Quintal, Nicole Sepulveda, Annie K. Rowland, Scott Robert Lim, Neil Simmons



Display Your Images in Their Element

Choose our Wood Prints to lend a warm, natural feel to your images, or MetalPrints infused on aluminum for a vibrant, luminescent, modern look. Both options provide exceptional durability and image stability, for a gallery-worthy display that will last a lifetime. Available in a wide range of sizes, perfect for anything from small displays to large installations.



Learn more at bayphoto.com/pro-products

25%
OFF
Your First Order!

*Get 25% off your first order with Bay Photo Lab! For instructions on how to redeem this special offer, fill out the New Customer Account Request form at bayphoto.com.



Stunning Prints

on Natural Wood or High Definition Metal

Quality. Service. Innovation.
We're here for you!

bayphoto
com

dp1
Quattro

Wide
19mm (28mm) F2.8

dp2
Quattro

Standard
30mm (45mm) F2.8

dp3
Quattro

Mid-tele
50mm (75mm) F2.8

SIGMA

sigma-global.com

dp
Quattro

The Reinvention of the camera,
The Reinvention of DP.



CONTENTS

HOW TO MAKE GREAT PICTURES APRIL 2015 VOLUME 80, NO. 4



FEATURES



56 THE GEAR YOU LOVE

We asked. You answered. Here are the results of our intensive reader survey, designed to uncover what tools you rely on for your favorite subjects. What are the must-have gadgets for nature, people, travel, sports, architecture, wildlife or landscapes? Discover what your fellow readers can't live without.

By Debbie Grossman

50 INTO THE WILD

Deep in the world's rainforests, photographer Tim Flach is hard at work capturing the flora and fauna that are threatened by climate change. Admire his treasures and learn from him while you can.

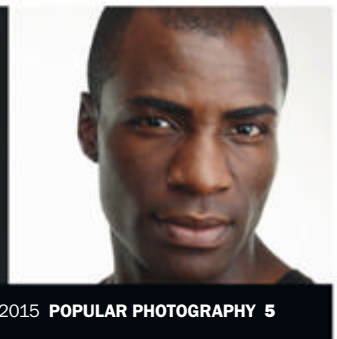
By Jack Crager



62 THE TRUEST PORTRAIT

Top headshot photographer Peter Hurley leads you on an enlightening, tip-filled journey to perfect portraiture. Know what a "squinch" is? You soon will.

By Peter Kolonia



Parrot

BEBOP DRONE

SKYCONTROLLER



Own the sky with Parrot ultimate Full HD drone camera

- Lightweight and robust design built-in with safety in mind
- Full HD video stabilized on 3-axis achieved by GPU
- 14 Megapixel and Fisheye camera
- First Person View piloting
- Control the angle of the camera with the piloting application
- Extended range with Parrot Skycontroller for immersive controls



FreeFlight 3 is available for free



From \$499 - More details on www.parrot.com

Parrot SA - RCS PARIS 394 149 496.



PETER HURLEY



Sitting Pretty

Chances are you have read this magazine before, so you probably noticed immediately that something has changed on this page: my portrait.

Like many photographers, I'm a whole lot more comfortable behind a camera than in front of one, and I don't submit to being photographed, especially in a formal way, very often. I'll miss my old headshot,

which our senior editor Peter Kolonia took in a small photo studio at our offices in New York. But after some five and a half years (who's counting?), it seemed time for a change.

So when Peter Hurley, probably the top headshot photographer in the country (as well as a super studio and environmental portrait shooter), told me he wanted to take a new "official" photo for me, I jumped at the chance. After all, a lot of famous and not-so-famous faces parade before his camera, and he makes all of them look gorgeous and charismatic. He is also a popular speaker and workshop teacher, with a million tips and tricks to share. He created an international network of pro photographers, Peter Hurley's Headshot Crew, who follow his style, and I knew that you could learn a lot from his techniques.

See for yourself in the story on page 62 and in the video my colleagues Jeanette Moses and Stan Horaczek made during my portrait shoot, which you can find at PopPhoto.com/headshot. Then try one for yourself, whether using Hurley's style or your own. We decided to make taking a headshot the subject of this month's Photo Challenge (see page 21)—you have until the end of April to send your best frame, and the winner will be profiled in our July 2015 issue.

Can't find a willing model? Turn the camera on yourself. Our reader study (page 56) found that more than three-quarters of you use a full-size tripod for your photography (if you're in the minority who don't have a 'pod, put it on your birthday wish list). And it seems as if every new camera coming out these days has an LCD monitor that flips around to face forward for selfies.

As for me, well, Peter Hurley did such a great job that you may not see a new photo here for another five years—unless we mix it up with some outtakes!

Miriam Leuchter

POPULAR PHOTOGRAPHY

EDITOR-IN-CHIEF MIRIAM LEUCHTER

ART DIRECTOR Jason Beckstead

SENIOR EDITOR Peter Kolonia

FEATURES EDITOR Debbie Grossman

SENIOR TECHNOLOGY EDITOR Philip Ryan

TECHNOLOGY MANAGER Julia Silber

ASSISTANT EDITOR Sara Cravatts

GROUP PHOTO EDITOR Thomas Payne

PHOTO EDITOR Fiona Gardner

ASSISTANT PHOTO EDITOR Linzee Lichtman

DESIGNER Wesley Fulghum

EDITORIAL COORDINATOR Jae Segarra

CONTRIBUTING EDITORS Richard Bernabe, Tim Fitzharris,

Harold Martin, Ian Plant, Dan Richards, Jeff Wignall

POPPHOTO.COM EDITOR Stan Horaczek

ASSISTANT ONLINE EDITORS Jeanette D. Moses, Eugene Reznik

IN MEMORIAM Herbert Keppler

BONNIER'S TECHNOLOGY GROUP

GROUP PUBLISHER GREGORY D. GATTO

PUBLISHER ANTHONY M. RUOTOLO Anthony.Ruotolo@bonniercorp.com

FINANCIAL DIRECTOR Tara Bisciello

EASTERN SALES DIRECTOR Jeff Timm

NORTHEAST ADVERTISING OFFICE

Margaret Kalaher, Matt Levy, Shawn Lindeman, Chip Parham, Amanda Smyth

MIDWEST MANAGERS Doug Leipprandt, Carl Benson

AD ASSISTANT Lindsay Kuhlmann

WEST COAST ACCOUNT MANAGER Bob Meth

DETROIT MANAGERS Edward A. Bartley, Jeff Roberge

DIRECTOR OF CUSTOM SOLUTIONS Noreen Myers

DIGITAL CAMPAIGN DIRECTOR Amanda Alimo

DIGITAL CAMPAIGN COORDINATOR Justin Ziccardi

PROJECT MANAGER AND DIGITAL PRODUCER Joey Stern

INTEGRATED SALES DEVELOPMENT DIRECTOR Kate Gregory

GROUP CREATIVE SERVICES DIRECTOR Laura Strom

CREATIVE SERVICES DIRECTOR Ingrid M. Reslmaier

MARKETING DESIGN DIRECTOR Jonathan Berger

ASSOCIATE ART DIRECTOR Sarah Hughes

DIGITAL DESIGN MANAGER Steve Gianaca

GROUP BRAND INTEGRATION DIRECTOR Beth Hetrick

BRAND INTEGRATION DIRECTOR Michelle Cast

ASSISTANT BRAND INTEGRATION MANAGER Vanessa Vazquez

BRAND INTEGRATION COORDINATOR Marisa Massaro

CONSUMER MARKETING DIRECTOR Andrew Schulman

RETAIL SINGLE COPY SALES:

PROCIRC RETAIL SOLUTIONS GROUP Tony DiBisceglie

HUMAN RESOURCES DIRECTOR Kim Putman

CORPORATE PRODUCTION DIRECTOR Jeff Cassell

GROUP PRODUCTION DIRECTOR Laurel Kurnides

PRODUCTION MANAGER Betty Dong



THIS PRODUCT IS FROM SUSTAINABLY MANAGED FORESTS AND CONTROLLED SOURCES.

BONNIER

CHAIRMAN Tomas Franzén

CHIEF EXECUTIVE OFFICER Dave Freygang

EXECUTIVE VICE PRESIDENT Eric Zinczenko

CHIEF CONTENT OFFICER David Ritchie

CHIEF FINANCIAL OFFICER Todd DeBoer

CHIEF OPERATING OFFICER Lisa Earlywine

CHIEF MARKETING OFFICER Elizabeth Burnham Murphy

CHIEF DIGITAL REVENUE OFFICER Sean Holzman

VICE PRESIDENT, INTEGRATED SALES John Graney

VICE PRESIDENT, CONSUMER MARKETING John Reese

VICE PRESIDENT, DIGITAL AUDIENCE DEVELOPMENT Jennifer Anderson

VICE PRESIDENT, DIGITAL OPERATIONS David Butler

VICE PRESIDENT, PUBLIC RELATIONS Perri Dorset

GENERAL COUNSEL Jeremy Thompson

FOR CUSTOMER SERVICE AND SUBSCRIPTION QUESTIONS,

such as Renewals, Address Changes, Email Preferences, Billing and Account Status, go to: PopPhoto.com/cs. You can also call 800-876-6636, email us at PPHcustserv@gcdsfulfillment.com, or write to Popular Photography, P.O. Box 6364, Harlan, IA 51593



NEWSSTAND To illustrate the gear that you use most, Brian Klutch shot our test model, Olympus's OM-D E-M5 II (page 69), with gear from our staff's own kits.

SUBSCRIBER Expressive and attention-grabbing portraits like this have made model-turned-photographer Peter Hurley (page 62) king of the headshot.

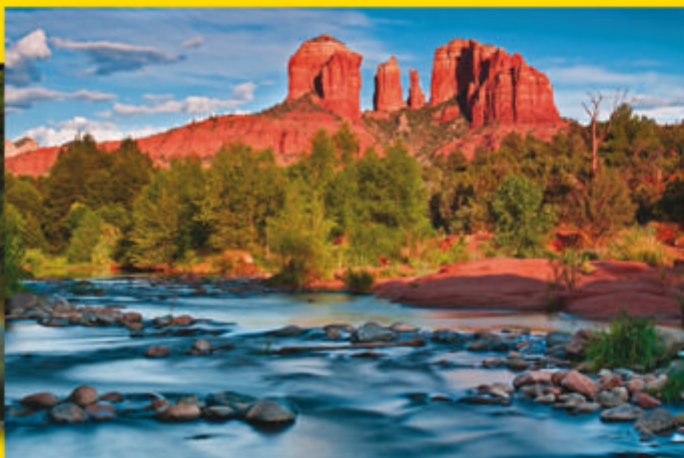
CAPTURE THE WORLD

with Nikon Professional Photographers

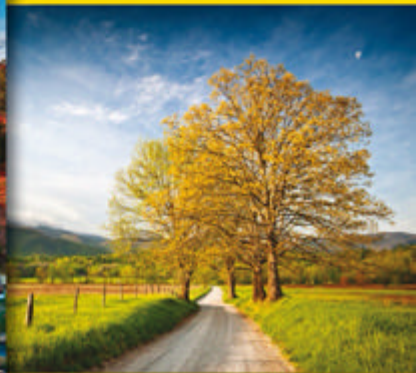
ANNOUNCING NIKON AS THE 2015-2016 PREMIER SPONSOR



© Chris Lockwood



© Aaron Meyers



© Dave Allen

SPECIAL VIDEO & LIGHTING WORKSHOPS • EXCLUSIVE PHOTO OPS • DIGITAL REVIEW SESSIONS

UPCOMING DESTINATIONS INCLUDE:

ICELAND, SEDONA & GRAND CANYON, SMOKY MOUNTAINS, QUEBEC, COSTA RICA, LONG ISLAND, CALIFORNIA, OHIO



**AF-S NIKKOR 24-70MM
F/2.8G ED**



D810



D750

Made for Generation Image.

REGISTER ONLINE AT MENTORSERIES.COM

For more information, call toll-free at 888-676-6468.



At the heart of the image™



© Pamela McNaughtan

QUEBEC

September 25-27, 2015

MEET YOUR INSTRUCTORS



**REED
HOFFMANN**



**DEANNE
FITZMAURICE**

Known for its undeniable European charm as well as its welcoming atmosphere, Quebec is a historic treasure where you can discover unparalleled photography opportunities. On September 25-27, 2015, the Mentor Series, along with Nikon professional photographers Reed Hoffmann and Deanne Fitzmaurice, is traveling to Canada to explore the many wonderful facets of Quebec.

We first depart for Old Quebec City, where historic sites such as Chateau Frontenac, a grand soaring hotel shaping Quebec's skyline, and the Royal Battery, built in 1691, are part of the centuries-old architecture that makes up the city's monumental personality.

As the city skyline is blanketed with bright lights we will make your way down the narrow street of Rue du Petit-Champlain, which is nestled in a quaint neighborhood. You will find delightful shops lighting up the cobblestone pathway.

Next head to Place-Royale to photograph the spiritual heart of Quebec and finally end the tour at the Parliament Building as the historic architectural site towers over emerald grass and a glistening fountain.

The next day, we depart for Ile d'Orleans, an island located in the Saint Lawrence River that is characterized by its rich, pastoral atmosphere,

to photograph surrounding farmland, barns, old blacksmith shops, and historic churches.

We will travel to Parc National de la Jacques-Cartier to capture the spectacular views of the Canadian mountains and serene lakes from different vantage points. Finally, your Mentor Series journey is completed at Montmorency Falls Park where the immense waterfall offers various scenic views from a suspension bridge and boardwalk.

Join Mentor Series on this photo journey to Quebec to experience some of Quebec's greatest sites.

WORKSHOP COST: \$1,250 includes in-the-field instruction, national park fees and permits, presentations, digital reviews, entrance fees, snacks and water on the bus, and transportation to each shooting location.

SIGN UP TODAY AT MENTORSERIES.COM For more information, call toll-free 888-676-6468

Advertisement



© Alexandre St. Louis



© David Boutin



© Magnus Larsson



© Christian Duguay

TREK EXCLUSIVE: NORTHERN QUEBEC

On Thursday, September 24th, join Nikon pro Reed Hoffmann on the St. Lawrence River Road in Northern Quebec for a unique photo opportunity especially arranged for a small group of 6 to photograph the rolling hills, llama farms, gorgeous coastal road, churches and sweeping vistas of the St. Lawrence River. The cost is \$550 and includes lunch and a digital review session.

FOLLOW US ON:



ADDITIONAL SUPPORT FROM:



SanDisk

Special thanks to our premier sponsor

Come to Quebec and try out some of the latest equipment that Nikon offers including its high-performance DSLRs, NIKKOR lenses, the Nikon 1 System, and a variety of COOLPIX compact digital cameras.



AF-S NIKKOR 24-70mm
f/2.8G ED



D810



D750



At the heart of the image.

SHOWCASE * CANON EF 400MM F/4 DO IS II USM





POLAR VORTEX

This looks like a summery scene, but it was actually shot on January 1, 2015, at the annual Polar Plunge in Lake George, New York. Online editor Stan Horaczek used Canon's new 400mm f/4 DO IS II telephoto lens to capture swimmers as they jumped into—and quickly jumped out of—the frigid water and into the 18-degree air. He shot wide open at f/4 to give the scene some depth at 1/1600 sec and ISO 400. He didn't need a tripod thanks to the reduced weight of the lens afforded by its clever optical design. See our full test on [page 77](#).



**Don't just take photos,
show them off.
In gallery quality.**

More than 12,000 pro photographers count
on WhiteWall for gallery-quality prints.
Don't just take our word for it – try it for yourself.

WhiteWall.com

Your photo as a gallery print
50 x 25 inches

starting at just
\$43.95

Save \$10

Coupon code: **WW15PPH03**

Minimum order value: \$70
valid until 06/14/2015*

NEXT

THE HOTTEST NEW STUFF

AND IT



WE WANT THIS

PRIMO PRIME

Sigma's newest 'Art' glass

NO QUESTION about it: Sigma's superb 50mm f/1.4 DG HSM Art lens from last year is a tough act to follow. Yet here comes the 24mm f/1.4 DG, whose wide 84.1-degree angle of view makes it perfect for landscape, event, and street photographers. Its fast maximum aperture is a boon to anyone

shooting in low light or looking for a shallow depth of field.

This full-framer comes in Canon, Nikon, and Sigma (and, later this year, Sony A) mounts; on APS-C-size sensors, it scales up to about 39mm (Canon) or 36mm (the others). Comprised of 15 elements in 11 groups, the

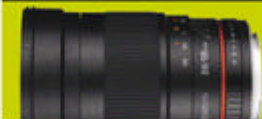
lens includes FLD and SLD low-dispersion glass to fight chromatic aberration and distortion, as well as two aspherical elements for sharpness when shooting wide open. Given how well its predecessors in Sigma's Art line performed in our lab and field tests, we can't wait to get this one.

SAMSUNG PACKS POWER INTO A SMALL ILC



16

ROKINON ADDS A FAST MANUAL-ONLY TELE



17

STATE OF THE ART: DSLRS FOR ENTHUSIASTS



18

SIGMA
24MM
f/1.4 DG
HSM ART

Full-frame
format
9-blade
aperture
77mm
filter size
Canon, Nikon,
Sigma mounts
\$849, street
sigmaphoto.
com

[NEXT JUST OUT]



CUT IN SIZE

Samsung packs a lot of power in a smaller ILC

WE FOUND a lot to love in Samsung's flagship NX1 when we tested the interchangeable-lens compact in our February 2015 issue. So we're looking forward to checking out the new, smaller NX500, which has the same backside-illuminated APS-C-size 28.2MP sensor, fast DRIME V processor, and hybrid

autofocus system with 205 phase detection AF points on the image sensor. Like its predecessor, the NX500 captures 4K video and regular 1080p HD. But this new ILC does make a few concessions to its reduced size and status in Samsung's lineup: ISO tops out at 25,600 (rather than 51,600) and the burst rate reaches 9 frames

per second with continuous autofocus—terrific, but not as awesome as the NX1's 15 fps speed. But the NX500 costs \$2,000 less, so why quibble?

Samsung NX500

\$800, street, with 16-50mm f/3.5-5.6

Power Zoom ED OIS lens

samsung.com

NEWS FEED

> Profoto has come out with a smaller and less powerful version of its prize-winning wireless TTL strobe. The B2 250 AirTTL maxes out at 250 Ws.

> The World Press Photo of the Year 2014 was awarded to Mads Nissen, a staff photographer at Danish newspaper *Politiken*. The image captured a tender moment between two Russian men and was made in response to an anti-gay law passed in Russia in 2013.



EASY WIDER

A full-frame zoom that's built to last

THE WIDEST F/4 zoom in Canon's lens lineup, this full-framer extends the focal range all the way down to 11mm (scaling up to about 18mm on APS-C-format EOS bodies). On full-frame cameras, its angle of view tops 126 degrees on the wide end of the range.

Among the 16 elements in 11 groups in this lens are four distortion-fighting aspherical elements, and it carries

extensive coating to guard against ghosting, flare, and fingerprints. The petal-shaped hood is built in. Like all of Canon's L-series glass, the lens is rugged, with extensive weather- and dust-sealing. But unlike Canon's recent (and less pricey) 16-35mm f/4L, this new lens lacks image stabilization.

Canon EF 11-24mm f/4L USM

\$2,999, street

usa.canon.com



TELE VISION

Bargain glass without autofocus

ROKINON KEEPS adding to its impressive line of affordable manual-focus lenses made for DSLRs and ILCs from a host of camera makers. Its latest entry, a fast full-frame telephoto 135mm f/2, comes in Canon ED, Fujifilm X, Micro Four Thirds (Olympus and Panasonic), Nikon F, Pentax K, Samsung NX, and Sony A and E mounts. Manual-only optics like this hold special appeal for video shooters used to pulling focus

by hand. Rokinon capitalized on this by also releasing a cinema version, a 135mm T2.2 Cine DS with de-clicked aperture control, calibration in T-stops, and other special features. But traditional photographers can save 50 bucks with the standard version, itself a bargain given the focal length and fast maximum aperture.

Rokinon 135mm f/2 ED UMC

\$549, street

rokinon.com

TAKE IT OUT

Pentax's small DSLR staves off rain and dust

THE ONLY weather-resistant camera in its class, and kitted with a slim all-weather zoom, Ricoh's Pentax K-S2 raises the bar for entry-level DSLRs. In a bid to increase sharpness, Ricoh skipped the anti-aliasing filter over the camera's APS-C-size 20.1MP sensor. As with all Pentax DSLRs, the built-in image stabilization system works with any lens you mount on the camera, even the

old Pentax K-mount glass from your grandfather's collection.

The K-S2, like most new cameras these days, uses Wi-Fi and NFC to communicate with your smartphone and other devices, and what consumer-oriented model would be complete without a 3-inch LCD that flips to face forward? It seems that Selfie Mode is here to stay.

Pentax K-S2

\$797, street, with HD DA 18-50mm

f/4-5.6 DC WR RE lens

us.ricoh-imaging.com



NEWS FEED

>The Smithsonian National Air and Space Museum displayed a recovered camera that belonged to Neil Armstrong, the first man to step foot on the moon. The 16mm Data Acquisition Camera recorded the moon landing and Armstrong's iconic "one small step."

>More space photography news: The U.S. Department of Energy issued approval to make The Large Synoptic Survey Telescope a reality. It will capture the highest-resolution images of the universe ever made and will provide an online 3D interactive map by 2022.

> Nikon released DSLR Filmmaker's Kits for the D750 and D810, aimed at helping aspiring filmmakers get the gear they need in a single and less-pricey bundle. The kit includes everything from the camera body and lenses down to variable neutral density filters.



New Software

Affinity Photo

Many programs claim to be Photoshop-killers, and we usually shrug them off. But the new Affinity Photo, now in public beta (affinity.serif.com), looks like a serious image editor, with 16-bit-per-channel editing and 64-bit plug-in support. It's made only for Macs with Core 2 Duo processors running iOS X, and in many ways it works more like Capture One than Adobe's juggernaut. Since it's in beta, expect some bugs.



Ultrawide Eye

TOKINA HAS TAKEN a good thing and, we hope, made it better. With its new AT-X 11-20mm f/2.8 PRO DX for APS-C-format DSLRs, Kenko Tokina made some critical changes to its long-popular 11-16mm f/2.8 DX-II from 2008. It obviously pushes closer to normal focal-length territory on the long end of its range, which spans the full-frame equivalent of about 18-32mm on Canon bodies and 17-30mm on Nikon, the only mounts announced so far. Less obvious is the new optical design, which includes three aspherical elements among its 14 in 12 groups.

Tokina AT-X 11-20mm f/2.8 PRO DX

\$599, street

tokinalens.com

[NEXT * STATE OF THE ART]

BEYOND BASICS

New DSLRs redefine entry level

EVERY YEAR the stakes get higher for so-called enthusiast-level DSLRs. As ILC systems grow to offer ever-better performance and increasing flexibility, it gets harder for those DSLRs to distinguish themselves from the pack. To keep up, both Canon and Nikon are updating their popular step-up APS-C-format models in significant ways this year.

With the new EOS Rebel T6i and T6s, Canon introduced a new 24.2MP sensor (up from 18MP on the Rebel T5i) that uses the same embedded Hybrid CMOS AF III system as its more advanced DSLRs for better autofocus during live view and video capture. The traditional AF system has been beefed up, too, boasting 19 cross-type focus points, up from 9 on earlier Rebels, and the cameras now have Wi-Fi and NFC connectivity built in (a Rebel first). The T6s offers a few extras, chief among them a top LCD, quick control dial, horizontal level indicator, and AF tracking in live view. Expect them in stores at the end of April at prices ranging from \$750, street, for the T6i (body only) to \$1,199, street, for the T6s (with an EF-S 18–135mm f/3.5–5.6 IS STM lens).

Nikon didn't make as big a leap with its new D5500—like the earlier D5300, it has a 24.2MP

One difference between Canon's EOS Rebel T6i (top) and T6s (center, shown without a lens) is the body: The T6s is the first Rebel with an LCD on top. The Nikon D5500 (bottom) comes kitted with a choice of lenses, but not the one shown here.



Canon EOS Rebel T6i

\$749, body only; \$899 w/18–55mm

f/3.5–5.6 IS STM lens usa.canon.com/eos



Canon EOS Rebel T6s

\$849, body only; \$1,199 w/18–135mm

f/3.5–5.6 IS STM lens usa.canon.com/eos



Nikon D5500

\$897, body only; \$1,397 w/18–140mm

f/3.5–5.6G ED VR lens nikonusa.com

CMOS sensor and built-in Wi-Fi connectivity. But the sensor sensitivity has climbed to ISO 25,600 as part of its standard, not expanded, range, and the company added more fine control of picture styles for JPEG shooters. More importantly, the D5500 can be set for unlimited continuous capture when shooting bursts of 4 frames per second or less (like the Canons, the D5500's top burst speed is 5 fps), and the fully articulated LCD monitor now offers

touchscreen controls. Street prices range from \$900 for just the body to \$1,397 with an AF-S 18–140mm f/3.5–5.6G ED VR lens.

Of course, these three cameras are hardly alone in this category, and newcomers (both DSLRs and ILCs) seem to arrive daily. Just check out Pentax's new all-weather K-S2 on the previous page. Decisions, decisions!

JVC

WORKHORSE



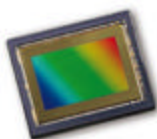
GY-LS300

THAT'S JVC



Interchangeable Lens System

You'll be ready for any situation with the ability to swap out lenses as needed.



Super 35 Sensor

A brand new sensor uniquely combined with an industry standard Micro Four Thirds (MFT) lens mount.

4:2:2

4:2:2 60p 50Mbps

Ideal for general HD production work. 50Mbps files are stored in the Quicktime (.MOV) format for easy editing.



Live Streaming

Easily deliver live HD to content delivery networks such as USTREAM and YouTube.

4K CAM

2K / 4K

thatsjvc.com

STORAGE WITH A TASTE FOR ADVENTURE



G-Technology



G-DRIVE[®] ev ATC ⚡
with Thunderbolt™

G-DRIVE[®] ev RaW

#myruggedlife

Risk-taking creatives like [G-Team Ambassador](#) and Adventure Photographer [Lucas Gilman](#) depend on compact external storage when shooting on the road or in the wild. The [G-Technology rugged family](#) keeps your once-in-a-lifetime work safe without sacrificing speed, convenience, or style.



g-technology.com/rugged



SHOCK RESISTANT
2.0m DROP



WATER PROTECTION



PRESSURE RESISTANT



DUST RESISTANT



FLOATS IN WATER



PERFORMANCE



SERIES COMPATIBLE

2 meter drop on a carpeted concrete floor (with G-DRIVE ev RaW inside). Approximately 35% lighter than the G-DRIVE ev. Floats in water and should it be dropped into a pool of water up to 1ft for 30 secs, your drive is protected. Compatible with the G-DRIVE ev, G-DRIVE ev SSD and G-DRIVE ev RaW. Thunderbolt and the Thunderbolt logo are trademarks of Intel Corporation in the U.S. and other countries.

Design by G-Technology in California. G-DRIVE, G-Technology and the G-Technology logo are registered trademarks of HGST, Inc. and its affiliates in the U.S. and other countries. G-DOCK ev is a filed trademark of HGST, Inc. and its affiliates in the U.S. and other countries. Apple, Mac, FireWire, MacBook Pro, Time Machine and the Mac logo are trademarks of Apple, Inc. Microsoft, Windows, Windows Vista and Windows XP are trademarks or registered trademarks of Microsoft Corporation in the US and/or other countries. Other trademarks are the property of their respective owners. ©2015 G-Technology, a division of HGST, Inc. All rights reserved. R0 01/15

SHARE

CONVERSATION, INSPIRATION, CONTESTS, AND YOUR QUESTIONS ANSWERED

'ECHOES OF THE BORSCHT BELT'

22

LEARNING FROM OUR MENTORS

24

YOUR BEST MONOCHROME SHOT

28

PHOTO CHALLENGE

NICE ICE

A wide lens used at twilight wins our call for icy landscapes



COLORADO-BASED photographer Dave Kozlowski had been exploring and shooting the Blue Mesa Reservoir for days before setting up this natural ice sculpture. "The weathering was really nice and the piece was relatively clear," he says of this dramatic chunk of ice.

Taking care not to fall through to the freezing water below, Kozlowski managed to break off a foot-long

shard. He dusted the snow off it, positioned the chunk on its side near the shoreline, and placed his Nikon D810 on the snowy ground, using his lens cap to stabilize his 14-24mm f/2.8G Nikkor zoom. At 14mm he could keep his camera relatively close to the piece, but

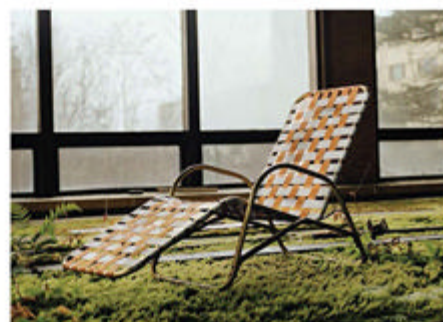
Dave Kozlowski used a Nikon D810 and 14-24mm f/2.8G AF-S Nikkor lens; exposure, 30 sec at f/7.1, ISO 100.

still capture a wide scene. "It's hard to tell the scale of this ice," he says.

Kozlowski used the last moments of the sunset to backlight and further emphasize the ice shard's intricate shape. Firing with a remote trigger for a 30-sec exposure, he made this winning shot. —*Jeanette D. Moses*

NEXT PHOTO CHALLENGE

In "The Truest Portrait" (page 62), photographer Peter Hurley shares his secrets for taking fabulous headshots. Send us the best one you've taken by April 30, and you could earn \$100 and your story here. Read the rules at PopPhoto.com/contests.



Nostalgia Trip

Returning to the ruins of the Borscht Belt

IN THE MID-1980S, when Marisa Scheinfeld was 6, her family moved to New York's Catskills region, once known as the Borscht Belt. A preeminent vacation spot from the 1920s to the 1970s, especially for American Jews,

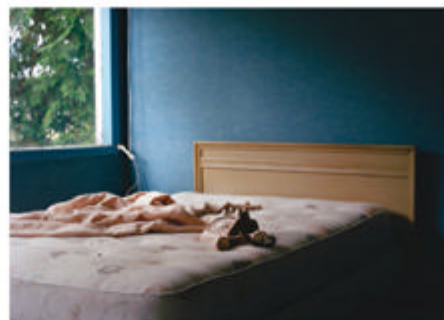
the area boasted more than 600 hotels with mammoth swimming pools, delicious food, and top-notch entertainment. Although Scheinfeld's family frequented resorts like Kutsher's and the Concord, by the time they moved there, the Borscht Belt's heyday was long over, and in the decades

that followed, many of its hotels were abandoned or demolished.

She began her series *Echoes of the Borscht Belt* in 2010 as an artistic remedy for the homesickness she'd developed while working and earning an MFA in San Diego. Shooting Kodak Portra 120 on a Pentax 645 and using only natural



Marisa Scheinfeld's book of this work will be published by Cornell University Press in 2015.



Among the ruins documented in *Echoes of the Borscht Belt* are the Pines Hotel in South Fallsburg, NY, and Grossinger's Catskill Resort and Hotel in Liberty, NY.

light, Scheinfeld scours hotels for remnants of the Borscht Belt's past, focusing on spaces reclaimed by nature (an indoor pool carpeted in moss) or repurposed by recent visitors (a showroom now used as a skate park). This combination elicits warm memories but also deep sadness from former visitors.

It wasn't until a recent trip to Kutsher's that Scheinfeld felt a nostalgic ache. "I had gone to this place where things had always been so simple," she says. "Now

it was literally the carcass of the hotel. All that's left are the bones."

She would like to return before it is razed and a new cluster of casinos and hotels arrive, courtesy of New York State's recent gaming legislation. Scheinfeld hopes such development will revitalize the area and remind people of the gorgeous scenery that has lured city dwellers for centuries. She doesn't expect the Borscht Belt's second coming, but rather another unique rebirth for the

Catskills, which has flourished and fallen with numerous industries since the 1700s.

"This project is very much a metaphor for the life cycle—everything has a birth, a death, and there's all this space in between," Scheinfeld says. "If you look beyond the decay, there's a lot of beauty in the environment, and I think in that is potential. Even though it might be hard to see amidst rust and peeling paint, it's still there."

—Jon Blistein

POPULAR PHOTOGRAPHY MENTOR SERIES[®] Ultimate Photo Adventure



Experience the ultimate photo adventure while enhancing your visual creativity and skill.

Hands-On Learning
Exclusive Photo Opportunities
Shoot w/Nikon Pros in the Field
Special Video & Lighting Workshops
Digital Review Sessions
Alumni Communities

Sign up for the Ultimate Photo Adventure today!
MENTORSERIES.COM

CURRENT 2015 TREK LINE-UP:
Long Island • California
Ohio • Sedona
Iceland & Greenland

PRESENTING SPONSOR



SanDisk

SHARE * MENTOR SERIES



SHOOT 'TIL IT'S RIGHT For the prize-winning scene above, Scott Bump kept shooting until the cormorant spread its wings. It was then that he knew he got his shot.

CHINESE TREAT

Fishing for magic in Chengdu, China

HE'S TRAVELED to more than 27 countries amid a busy professional life, but for R&D director Scott Bump from Franklin, Massachusetts, the 2012 Mentor Series trek to mainland China “was one of the most physically challenging things I’ve ever done,” he says. “We were all over the country, hiking up mountains and across cities. Because of road closures in Beijing, we had to walk blocks and blocks from the bus to a hotel.” Adding to these trials was smog so thick that you couldn’t see across the street and few English speakers to be found.

Despite the challenges, Bump came home with some of the best shots of his life, including the Best-in-Trek photo of a Chengdu fisherman shown above. To bag this winner, he started his day with a 3:45 a.m. wakeup call, which got him to the banks of the Li River in time to shoot a form of fishing that these days is practiced mainly for tourists. An ancient technique, it uses a lantern to attract fish. A cormorant then catches the fish, which the fishermen wrests from the bird.



SCOTT BUMP
Along with wife Cynthia Grady, the photographer is planning future treks to Ireland, Prague, and beyond.

The scene was challenging for his group because of its darkness. Happily, Bump was well prepared with a tripod and wireless, off-camera flash that made tumbling out of bed so early worth the effort. He jokingly says, “I used a voice-activated light stand—that is, another trekker—to aim the flash, and was rewarded with this. It was a case of having the right gear at the right time and place.”

Another important thing he’s learned on his Mentor Series adventures? “Always connect with the people you photograph,” he says. Make sure you communicate with them, he continues, even if it’s only through gestures. “If you can gain the trust of your subjects, your portraits—and all your travel experiences—will be by far the better for it.”

SCOTT BUMP (2)



It's that fast.



Really Right Stuff

Make changing orientation quick, easy and secure.
Just like our L-plate quick-release system.

For more info, visit ReallyRightStuff.com or call us at 1-805-528-6321 or toll-free in the US and Canada 1-888-777-5557.

DRONE WARS

I hate drones ("Nature by Drone," February 2015) and sincerely hope their use is barred from national parks. Last year in [Canada's] Fundy National Park, I was trying to enjoy the beauty of Point Wolfe, but all I could hear was this obnoxious whine. Some old fart was flying a drone below the bridge, and the sound reverberated along the rock walls. Everyone else there was annoyed at this clown, even his wife. I'm sure that most of us visit national parks to get away from such intrusions. A few jerks with more money than sense or respect for others shouldn't be allowed to ruin it.

Paulette Baker
via Facebook

I LOVE FLYING and making images with my drone. I'm both a pilot and landscape photographer, and this allows me to do both at the same time without having to rent a plane for \$130/hour.

Michael Foster
via Facebook

EDITOR'S NOTE: Foster posted an aerial landscape of his own to the comments on our Facebook page about our drone story. Visit us there to see it for yourself.

YOU HAVE WRITTEN a beautiful and a heart warming editorial in the December 2014 issue, and I congratulate you for that (Editor's Letter, "Why We Shoot"). That was quite close to my heart and mind.

Akhtar Miza
Lahore, Pakistan

CORRECTIONS

IN OUR DECEMBER 2014 issue, we reported inaccurately on Manfrotto's 190X tripod and inadvertently ran a photo of the 190XPRO model instead. The 190X comes only with three-section legs, and its center column cannot be positioned horizontally. We regret these errors.

LAST MONTH, in our NEXT section (We Want This, "Res on a Roll"), we reported on two

forthcoming DSLRs from Canon, the EOS 5DS and 5DS R. Our article was based on information we'd received prior to these cameras' official announcements and therefore mentioned a particular autofocus feature that may not be included when these models come to market in June. We also overestimated their initial street prices: The 5DS is currently listed at \$3,699 and the 5DS R at \$3,899.

FROM FACEBOOK

WE ASKED you to name the first photography-related thing you'd buy if you won a \$500 million lottery jackpot. A few responses:

A worldwide vacation to take pictures.

—Diane Carter

A few RED Dragons and Alexas, Nikon D810, Canon EOS 5D Mark III, Panasonic Lumix GH4, Sony Alpha a7s, a Hasselblad or two, and a ton of glass, including a set of Leica, Zeiss, and Cooke lenses, plus a ton of old Nikkors and Lomos. I love old glass on new sensors.

—Thor Melsted

I have all the camera gear I need. I'd load up my car for a six-month cross-country photo trip.

—Mark James Luzzi

FIND US ONLINE



TWITTER.COM/
POPPHOTO



FACEBOOK.COM/
POPULAR
PHOTOGRAPHY



INSTAGRAM.COM/
POPPHOTOMAG

POPULAR PHOTOGRAPHY

HOW TO CONTACT US

Address your questions or comments on editorial content to Popular Photography, 2 Park Avenue, New York, NY 10016; email, PopPhoto@bonniercorp.com. Published letters may be edited for length and clarity. We regret that we cannot answer all letters. Editorial contributions sent by mail must include return postage and will be handled with reasonable care; however, we assume no responsibility for return or safety of photographs, disks, or manuscripts.

SUBSCRIPTIONS

Visit PopPhoto.com/cs for all subscription inquiries, call us at 800-876-6636, or email us at PPHcustserv@cdsfulfillment.com. Please allow at least

8 weeks for a change of address; include both your old and new addresses, and if possible an address label from a recent issue. Subscription prices: U.S.: 1 year, \$14; 2 years, \$28; 3 years, \$42. Canada: 1 year, \$26; 2 years, \$52; 3 years, \$78. All other foreign: 1 year, \$38; 2 years, \$76; 3 years, \$114. Occasionally we share our information with other reputable companies whose products and services might interest you. If you prefer not to participate, please contact us at PPHcustserv@cdsfulfillment.com or popphoto.com/cs.

REPRINTS AND EPRINTS

For Reprints, email reprints@bonniercorp.com.

Perspectives of power



Focal length: 15mm Exposure: F/11 0.6 sec ISO400 © Ian Plant

new

SP 15-30mm F/2.8 Di VC USD

[Model A012] for Canon, Nikon, and Sony* mount

Introducing the world's first** fast full-frame ultra-wide-angle zoom with image stabilization

Push your vision even wider with the new Tamron SP 15-30mm F/2.8 Di VC USD zoom — the world's first in its class with image stabilization. The latest addition to Tamron's line-up of SP (Super Performance) lenses, designed for both for full frame and crop-sensor DSLRs, is built to the highest standards, and enables you to capture images of expansive vistas free of annoying lens aberrations thanks to Tamron's use of proprietary XGM eXpanded Glass Molded Aspherical lens element technology. This bold new zoom delivers superb corner-to-corner resolution — equal to a prime lens — at every focal length and a bright F/2.8 aperture throughout its 15-30mm zoom range. Its rugged design features a fluorine-coated front element — which sheds water and repels dirt — and enhanced moisture resistant construction. Fast. Ultra-wide. Image stabilized. Powerful from any perspective.

*Sony mount without VC

**For F/2.8 ultra-wide-angle zoom lens for full-frame DSLR cameras (Source: Tamron)



TAMRON
New eyes for industry

www.tamron-usa.com

[SHARE * YOUR BEST SHOT]

In Black & White

This month's winners celebrate form and line without color

**MONTHLY
PHOTO
CONTEST**

Want to enter? Get the rules and upload your images at PopPhoto.com/contests.



3rd Place \$100 Prize

MARV KAMINSKY, 69, TOXICOLOGIST, FLANDERS, NEW JERSEY

While visiting the Willowood Arboretum in Chester, New Jersey, Marv Kaminsky spotted this cluster of white clematis flowers. "They were evenly lit in the shade and stood out from the darkened background," he says. He cropped his image and converted it to black-and-white using Topaz B&W Effects to emphasize the texture and detail of the flowers. He burned distracting light areas from the background and finished the image with a bit of sharpening. **TECH INFO:** Olympus OM-D E-M1 with 12-40mm f/2.8 Olympus M. Zuiko Pro lens; 1/320 sec at f/3.5, ISO 400. Edited in Adobe Photoshop CS6 and Topaz B&W Effects 2.

2nd Place \$200 Prize

PREMIER ELIPE, 40, CIVIL ENGINEER, CAGAYAN DE ORO, PHILIPPINES

Standing on the observation deck of Dubai's highest tower during a vacation, Premier Elipe chose to look up instead of down. "I felt challenged to capture an image that would be meaningful and memorable to me," he says. "I wanted to concentrate on capturing Dubai's architecture in its purest form—without the clutter of any human element." His solution was to shoot skyward. He converted the image to black-and-white and adjusted curves and levels using Photoshop CS6.

TECH INFO: Nikon D90 with 10-24mm f/3.5-4.5 Nikkor lens; 1/125 sec at f/14, ISO 125. Edited in Photoshop CS6.



ULTRA HD

Blackmagicdesign



DAVINCI RESOLVE 11

DaVinci Resolve 11 now adds professional nonlinear editing to the world's most powerful color grading system!

DaVinci Resolve 11 combines the world's most advanced color corrector with professional multi track editing so now you can edit, color correct, finish and deliver all from one system! With its legendary image quality, real-time GPU accelerated performance, and support for more wide dynamic range RAW formats than any other system, DaVinci Resolve has the creative tools professional editors and colorists need to work on Hollywood's most demanding projects!



Integrated Editing and Grading

DaVinci Resolve 11 gives you professional editing and color correction all in one system so you can move between editing and grading with a click of the mouse! No more importing, exporting, or conforming ever again! Teams can have multiple colorists and assistants working with an editor on the same sequence at the same time! You get a true nonlinear workflow that lets you edit, grade and finish faster than ever before!



Professional Nonlinear Editing

DaVinci Resolve's multi track timeline lets you quickly ripple, roll, slip, slide, extend and shorten edits. The context sensitive trim tool changes automatically based on the position of the mouse to make editing faster! Dynamic JKL trimming works on multiple tracks and can be done in the same direction or asymmetrically. Whether you use the mouse or keyboard, Resolve is easy to learn and has all of the tools professional editors need!



Native Camera RAW

DaVinci Resolve works natively with all major RAW formats! Featuring the industry's most advanced de-bayer algorithms, Resolve preserves every detail captured by the camera's sensor. That means you can adjust exposure, shadows, highlights and mid-tones long after the camera stops rolling! With Resolve, you can create looks that simply aren't possible on other systems. The native RAW workflow means your final masters are literally first generation renders from camera original files!



Scalable Power

Hollywood's leading studios choose DaVinci Resolve because it handles incredibly high resolution images and massive amounts of data easily on super tight deadlines. Resolve is scalable and works on laptop's up to massive multi GPU systems connected to shared storage. Whether you're working on HD, 4K or beyond, DaVinci Resolve has the power, performance and creative tools you need to get the job done!

DAVINCI RESOLVE 11 LITE

Free download with unlimited nodes.
Supports 1 GPU.

Free Download

DAVINCI RESOLVE 11 SOFTWARE

Full Resolve with unlimited nodes and multiple GPUs.
Use 3rd party control panels.

\$995

DAVINCI RESOLVE 11

Full Resolve with colorist control surface
for the most advanced facilities.

\$29,995

www.blackmagicdesign.com

Blackmagicdesign



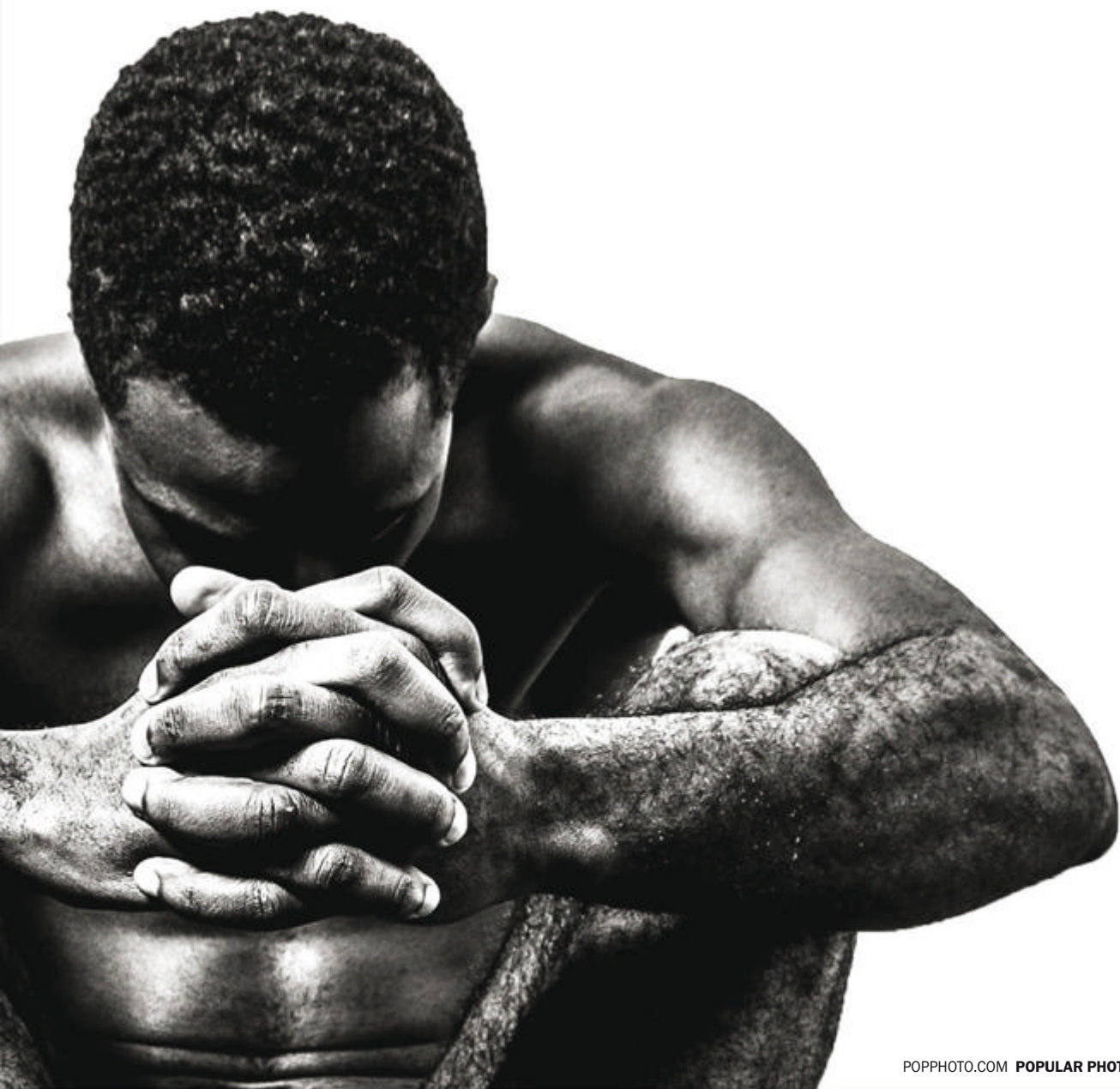
1st Place \$300 Prize

**PAOLA NAZARIO, 24, PHOTOGRAPHER,
NEW YORK, NEW YORK**

Paola Nazario was inspired by Greek and Roman sculpture when she made this winning black-and-white image. "I was drawn to deep contrast and the study of form using the human body," she says. Working inside an apartment in Queens, New York, Nazario used a single Dynalite head with a soft box to light her model. In Adobe Photoshop Lightroom 5 she adjusted exposure, contrast, highlights and shadows. Finally, she removed the background using Photoshop Creative Cloud and replaced it with white to further accentuate the model's form.

TECH INFO: Fujifilm X-E1 with 18-55mm f/2.8-4 Fujinon XF R LM OIS; 1/25 sec at f/4, ISO 200. Edited in Photoshop CC and Lightroom 5.





POPULAR PHOTOGRAPHY
MENTOR SERIES
 Ultimate Photo Adventure



© Kevin Brown

SMOKY MOUNTAINS

September 18-20, 2015

MEET YOUR INSTRUCTORS



WOLFGANG KAEHLER



LAYNE KENNEDY

Spanning the border between North Carolina and Tennessee lies the national treasure that is the Great Smoky Mountains National Park. With ageless mountains, diverse wildlife, and endless greenery, the park provides limitless distinctive photographic opportunities. Joining this Mentor Series excursion are Nikon professional photographers Wolfgang Kaehler and Layne Kennedy, who will each provide an incomparable, hands-on learning experience that will enhance anyone's photography skills.

Our first stop is the Mountain Farm Museum and Mingus Mill. You will photograph a unique collection of farm buildings, including a log farmhouse, barn, apple house, spring house, and a working

blacksmith shop in a historic region settled over two hundred years ago. Then photograph at the Campbell Overlook where the incredible, emerald view spans from the valley to Bull Head peak and then even farther up to Balsam Point. End the day at Clingman's Dome where you will capture the sunset as it casts cobalt and lavender hues over the emerging sea of mountaintops.

Begin the next day with sunrise at Cades Cove, an 11 mile loop road that leads through breathtaking pastoral scenery, complete with historic cabins, churches, beautiful country lanes, primitive churches, turkeys, deer and other various wildlife. Throughout the park are countless meandering

streams, soft, silky water and tranquil falls that make for irreplaceable photography opportunities. Finally, complete your second day at Morton Overlook while the sun drops on the spectacular indigo mountaintops.

The Mentor Series photo workshop culminates with an early morning photo shoot as the sun climbs over the Great Smoky Mountains. This invaluable learning experience will enrich any photographer's proficiency. Discover the Great Smoky Mountains with the Mentor Series team.

WORKSHOP COST: \$1,250 includes in-the-field instruction, national park fees and permits, presentations, digital reviews, entrance fees, snacks and water on the bus, and transportation to each shooting location.



© Jack DeBlanc



© Dave Allen



© Chat Dutson



© Dave Allen

Visit MentorSeries.com to experience our beautiful photo galleries, videos, instructor bios and trekker testimonials.

SIGN UP TODAY AT MENTORSERIES.COM

For more information, call toll-free 888-676-6468

**TREKS OPEN
TO ALL SKILL
LEVELS AND
CAMERA
USERS!**

FOLLOW US ON:



ADDITIONAL SUPPORT FROM:



SanDisk

Special thanks to our premier sponsor

Come to the Smoky Mountains and try out some of the latest equipment that Nikon offers including its high-performance DSLRs, NIKKOR lenses, the Nikon 1 System, and a variety of COOLPIX compact digital cameras.



AF-S NIKKOR 24-70mm
f/2.8G ED



D810



D750



At the heart of the image™

Get your best images up on the wall.



Standouts



- Ready to hang. No framing or extra hardware necessary.
- True photographic prints on **Kodak®** Professional Endura Premier Paper E-surface or Metallic.
- Mounted on 3/4" foamcore with banding on the edges.

STANDOUTS - 3/4"		
SIZE	E-SURFACE	METALLIC
5 x 7	\$12.49	\$12.99
8 x 10	\$15.49	\$15.99
11 x 14	\$19.98	\$22.98
16 x 20	\$35.99	\$40.99
16 x 24	\$45.99	\$49.99
20 x 30	\$69.99	\$74.99
24 x 30	\$92.99	\$99.99
30 x 40	\$155.99	\$159.99
12 other sizes available. See our website for complete details.		

- Standout pricing includes: lab correction by an experienced technician, true photographic printing, and mounting on the Standout.



PROFESSIONAL PRINTS
8x10 for only **\$1.69**
 Your choice of **LAB CORRECTED** or **NO CORRECTION** for the same price.

We offer the highest quality photographic prints in over 80 sizes, up to our 10 ft. Panoramix™ prints. We also offer a wide variety of other products including: greeting cards, books, albums, phone covers, mugs, metal prints, and more.

Visit our website to browse through all our products and see pricing. You can sign up and begin ordering today.

Great Prints. Great Prices. Easy Ordering. **It's that Simple.**

meridian
Professional Imaging

www.meridianpro.com | 800-544-1370

HOW

EXPERT TIPS AND TECHNIQUES FOR BETTER PHOTOS

TRY YOUR HAND AT SILHOUETTES AND SOAP BUBBLE CLOSE-UPS



38

46

SHOOT BEAUTIFUL BERMUDA



39

LEARN TO LIGHT (BIG!) DIAMONDS



40



CREATIVE THINKING

ANIMAL CRACKER

Evoke human qualities from critters



NOT THE PRODUCT of a grand plan or scheme, the human-like animal portraits of Diane Collins and husband Jordan Hollender started strictly by chance.

The twosome operates an advertising and (people) portrait studio out of Brooklyn, New

York, where, in their spare time, they shoot animals to refresh their portfolio. Why animals? "Because everyone loves them, especially the dogs," says Hollender. It also helps that animals typically work without model releases, talent agents, or high per-diems.

Enjoy
Collins and
Hollender's
comical
animal
portraits at
hollenderx2.com.

The llama above is a good example of their anthropomorphic style. The creature shows a noble comportment of the head and a hilariously jaded expression in the eye. The picture took all of 15 minutes to take. They visited a small farm in upstate New York,

HOW * CREATIVE THINKING

where they encountered this patrician-like creature. “We got lucky,” remembers Jordan.

Their animal shots typically begin by finding subjects through ads on Craigslist, visits to pet shops and animal farms, and through friends.

The trick to humanizing the critters, the couple discovered, hinges on sophisticated lighting. They light their four-legged subjects the same way they light humans. In the studio, they use four or five lights for the subject and background. On location, they use at least two lights, one as the main and the other as a side light for texture and modeling. “By their nature, multi-light setups produce an intense, dramatic, poppy and focused light,” says Hollender. “When you turn it on animals, something unusual happens.”

The photographers have developed other creative techniques to humanize their subjects. Their tips:

- Shoot a lot. “You can’t predict when that expressive moment will occur. We shoot constantly, because the right moment just happens, and then it’s gone,” says Hollender.
- Be alert for commonalities. The couple looks for behaviors shared by people and animals. Sneezes, yawns, lifted or lowered eyelids or eyebrows, for example, will humanize your pet.
- Coax the animal to look directly into the lens. Eye contact is crucial, says Hollender. “We get close. Often just tapping the lens shade will do the trick. Or I’ll make crazy noises to coax interesting facial expressions.

“The trick is to go in with few expectations,” he adds with a smile. “When a shot works, it always comes as a pleasant [if hard-earned] surprise.”

—Peter Kolonia

FIX IT FAST

TOP DOG

DANIELLE MITCHELL



Put the focus on your subject

DANIELLE MITCHELL of San Marcos, Texas, was honing her action-stopping skills with the Canon EOS Rebel T3 while pup Ruckus was charging after waterfowl in a local pond. The problem? Almost half the frame is given to a beaver lodge instead of her subject. Paging the crop tool!

While trimming to nuke the distracting sticks, I made sure to leave Ruckus somewhere to run within the frame, and then made a Levels adjustment to improve overall tone and exposure. (Since the move would be slight, I selected the “Auto” option to save time.) Next, I added a Hue and Saturation adjustment layer to bring out a little more warmth in the



dog’s beautiful auburn coat. To finish the image off, I burned and blurred the edges slightly to give even more emphasis to Ruckus, and sharpened him a bit to play down slight motion blur.

Total fix time: 12 minutes.

—Wesley Fulghum

PHOTO GLOSSARY PLATING

MONICA STEVENSON composed the fantastic diamond ring—yes it’s an actual diamond—in this month’s Lighting column (page 40) from a group of “plates.” The relatively new term, derived presumably from the printing industry, refers to individual shots (or plates) that are ultimately composited with an image editor to form a single final image. The overall process is sometimes referred to as “plating,” and each image ultimately becomes a layer in an image editor file. Stevenson created separate sets of plates, one for the setting’s metallic surfaces and another for the gem’s facets. Each required different lighting and exposure strategies. Often for a tabletop product shot like Stevenson’s ring, the first plate will be a picture of the empty tabletop. The process of combining the ring plates took her retoucher nearly two days.

135mm F2.0 FULL FRAME DIGITAL PHOTO



135mm T2.2 FULL FRAME CINE DS



De-clicked
Aperture*



Low Light



Bokeh



Non-Rotating
Filter Mount



Circular
Aperture



Low Flare
& Ghost



Full Frame

Manufactured in Korea, Rokinon prime fixed mount lenses utilize specialized glass types and advanced manufacturing and quality control techniques to produce **AFFORDABLE** high performance optics for photographers and cinematographers who appreciate great image quality with quiet, silky smooth and complete focusing control.

Features Include: *Cine DS feature**

- Focusing to 2.6 Feet
- Non-rotating filter mount
- All metal chassis and lens mount
- UMC anti-reflective Ultra-Multi-Coating
- Circular 9-blade diaphragm for superb Bokeh
- Color matched to Rokinon system
- T-Stop calibrated for accurate and consistent exposure*
- Declicked aperture control for smooth, seamless and silent adjustment*
- Dual calibrated right and left side distance and T-stop scales*
- Standardized focus gear and aperture with follow focus devices gear positions for quick lens changes*

For: Canon, Nikon, Sony A, Sony E, Pentax K, Four Thirds, Olympus/Panasonic Micro 4/3, Samsung NX & Fuji X



QUICK TIP

UP BEAT

How to make your silhouettes sing

SHOOTING SILHOUETTES isn't rocket science," says Jen Rosenstein, the California portraitist responsible for shooting famed rock-and-rollers like Jason Mraz. (That's him in the middle.) It's important to have no light hitting the front of your subjects but a lot behind them, she says.

For Rosenstein, the posing of a silhouetted group plays as important a role as the lighting. The figures' body language should be lively or provocative. If your figures are slouched and lifeless, no matter how contrasty the tableaux, your photograph

will be lifeless, as well.

Just as important, she says, is "flow." The figures should complement each other, with a synergy operating across the group. Pose adjacent subjects so there's no overlap and set up a visual rhythm based on height. Alternate tall and short people, or as Rosenstein did here, have the group peak center frame.

This shot is, by the way, one in-camera exposure. Rosenstein boosted contrast and cleaned up the background in post, but that's it. The reflections on the floor? Plexiglas.

—Peter Kolonia

Rosenstein shot with a Canon EOS 5D Mark III and EF 24-105mm f/4L IS USM lens, exposing for 1/160 sec at f/13, ISO 100.

What's This?

Canon's anti-flicker system

► **What it is:** New in the Canon EOS 7D Mark II, this technology addresses the problem of (sometimes significant) exposure and white balance variations that can occur due to the flickering of, for example, a fluorescent light source.

► **How it works:** The camera's sophisticated 150,000-pixel light meter is programmed to detect on/off light pulses and make minute changes to the shutter speed to compensate.

► **How to use it:** The feature usually isn't automatic, but you can invoke it by toggling through to the fourth shooting menu and enabling "Anti-flicker shoot." It's always on in the 7D's A+ Auto mode.

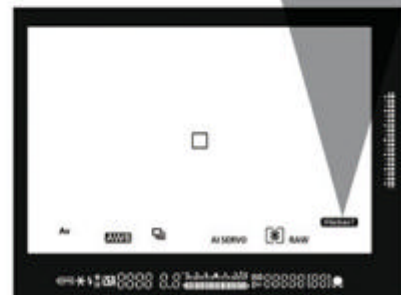
Flicker!

30-SECOND SOFTWARE STRAIGHTEN FAST IN CAMERA RAW

Converting a RAW file with a crooked horizon line? In Adobe Camera Raw for Photoshop CC, you can straighten it quickly and automatically. There are three ways to do it. The simplest is to double-click on the Straighten Tool in the toolbar that runs across the top of your image preview. The program will show you its best guess and take you into crop mode. Adjust as needed, then hit Enter to confirm. The second method is to select the Straighten Tool and then double-click in the image window.

The third is useful if you are already in crop mode and want to see what an automatically straightened horizon would look like. Hit Ctrl (Command on a Mac) to switch temporarily to the Straighten tool, then double-click anywhere on your image.

—Debbie Grossman



HOW * TRAVELING PHOTOGRAPHER

Island Haven

Find picture-perfect scenery in Bermuda

This view-through-a-wall on Crawl Island, Somerset, Bermuda was shot by Gavin Howarth. He used an Olympus E-3 with a 12–60mm f/2.8–4 lens at 12mm (24mm equivalent); exposure, 1/15 sec at f/11, ISO 100.

“BERMUDA IS one of the smallest countries in the world but probably one of the most photographed by area,” says photographer and lifelong resident Gavin Howarth. “Beauty is all around.”

Start your tour by hopping a local bus (no rental cars in Bermuda) and take the #7 that travels along South Road on the South Shore, home to pink-sand beaches. “Get off at Warwick Long Bay and walk along the various coves to Horseshoe Bay, our most famous beach,” Howarth says. “You will pass by small, sheltered Jobson’s Cove. The next few beaches, Stonehole Bay Beach and Chaplin Bay Beach, are often overlooked and both have beautiful, natural rock formations jutting out into the ocean.” Pathways connect all of the beaches.

Another of Howarth’s favorite stops? Devonshire Bay in Devonshire Parish. “It reminds me a lot of the Bermuda from the past—a very quiet neighborhood with a small park and lots of character,” he says. “The park is on a peninsula that allows you to look for miles in either direction along the coast.” It’s also home to a small active fishing fleet.

St. George, formerly the capital of the island, is a real treat for architectural shooters and history buffs. Howarth suggests starting at King’s Square, where you can visit the historic Town Hall and stroll to nearby Ordinance Island. “Heading along the main street, Water Street, you quickly appreciate the beauty of this small town, now a World

Heritage site,” he says. Turning up Duke of York Street will lead you to the pretty St. Peter’s Church—a Bermuda icon and the oldest Anglican church in continuous use outside the British Isles.

Then you can walk to Cooper’s Island, once part of a U.S. military base. “It’s a protected sanctuary and often you’ll be the only one there.”

—Jeff Wignall

BEYOND THE BEACH

Only 21 miles long and less than 2 miles across at its widest, Bermuda has many pretty places and fun things to do. Here are a handful of options.

• BERMUDA RAILWAY TRAIL NATIONAL PARK

Runs 18 miles from end to end. Hike or bike this the path where trains used to run from 1931 to 1948. The footing is a bit rough in places and the trail not unbroken (you’ll cross some busy roads), but you’ll find views of Bermuda that tourists rarely see. The trail is divided into nine 1- to 4-mile sections. Pick up a trail map at the Visitors’ Service Bureau in either Hamilton or St. George.

Info: Bermuda-online.org/railway.htm

• CRYSTAL AND FANTASY CAVES Wilkinson

Avenue in Hamilton Parish; bus #1, 3, 10, or 11 Two of Bermuda’s most spectacular and accessible limestone caves. Walk a boardwalk over a 55-foot deep crystal-clear lake. Open 9 a.m. to 5 p.m., guided tours run every 20 minutes (last tour at 4:30 p.m.). **Info:** (441) 293-0640; caves.bm

• HARTLEY’S UNDERSEA WALK **Heritage Wharf, in Dockyard**

These helmet dives are held in 8–10 feet of water less than 2 miles from shore. Trips last 3–4 hours with 30–40 minutes submerged. Bring a waterproof camera or housing, and a towel; wetsuits are provided. Boats depart at 9 a.m. and 1:30 p.m.

Info: (866) 836-3989; hartleybermuda.com

• HEYDON TRUST BERMUDA PARK AND CHAPEL

16 Heydon Drive, off Somerset Road, Sandys; bus #7 or 8 Bermuda has many lovely churches, but this is the smallest and one of the oldest, from the early 1600s. The chapel (and other historic buildings) is set on 43 acres of gardens and orchards with views of Heydon’s Bay. The chapel is open 8 a.m. to 4 p.m.; grounds, dawn to dusk. **Info:** (441) 234-1831

• GIBBS HILL LIGHTHOUSE **Bus #7 or 8 from Hamilton**

This 117-foot tower (the light perches 362 feet above the sea) was first lit in 1846; ships can see its beam from 40 miles away. Climb the 185 steps to an open-air platform with panoramic views. Monday to Saturday, 9:30 a.m. to 4:30 p.m.; Sundays and holidays, 10:00 a.m. to 4:30 p.m.

Info: (441) 238-8069; bermudalighthouse.com



Inner Light

A tale of a thousand mirrors

"IT'S A VERY, very big diamond," says Monica Stevenson, a New York City jewelry and luxury goods pro (monicastevenson.com). "After shooting it for a client, the piece was left in my studio for a few days so I decided to spin it into a dramatic portfolio piece." Stevenson wanted to show

her skill at rendering the clarity of such an expensive gem, while flattering both its metal and pavé setting and the diamond facets. "Most of all, I wanted give the ring its own inner light," she recalls.

To light jewelry, Stevenson first bathes the tabletop in a very broad, even illumination.

Monica Stevenson is a seasoned pro in the luxury market, with clients from Tiffany & Company to Ritz-Carlton hotels.

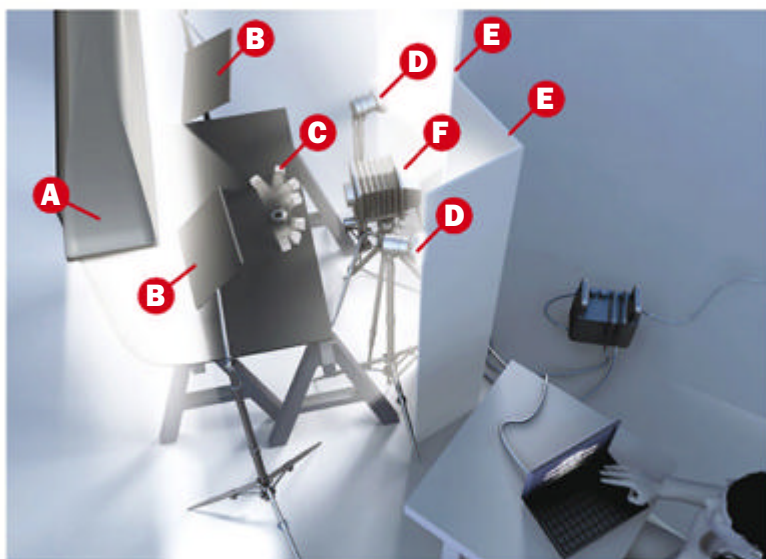
"Then I start taking light away," she explains. This process, called subtractive lighting, is a style that involves blocking light from specific areas of the background and subject (explained in more detail in the sidebar at right).

A diamond ring this sophisticated is difficult to light because it's made up of thousands of small facets, which are essentially thousands of mirrors. In order to show off the entire ring, Stevenson had to carefully choose which of these tiny surfaces she would



LIGHTING MULTI-FACETED BLING

SIMPLE  COMPLEX



KRIS HOLLAND/MAFIC STUDIOS

To light this massive diamond ring, Stevenson started with a broad strip light (A) that flooded the tabletop with a soft and even illumination. In a process called subtractive lighting, she then narrowed the light's output with modifiers. She attached an egg crate grid (not visible), then further focused the light with the help of two black flags (B). She even made subtractive use of the small Plexiglas cubes with silver reflectors (C) by selectively positioning them to both block and add front light. For this front fill, she bounced the output of two 2400 Ws Profoto Acute strobes (D) into large V-flats (E), shooting the scene with a Sinar F1 view camera and Leaf Aptus digital back (F). "Subtractive lighting is often used by film makers to help draw attention to areas of a movie set. For reflective jewelry, you often have to think like the director of photography on a film set would," says Stevenson.



THE GEAR

Profoto Acute
2R 2400 WS
generator
(\$3,018,
street)

Profoto 1x4
RFI softbox
and egg
crate grid
(\$588,
street)

render as highlights and which as shadows. "I started by working in a jet-black studio, because it gave me full control of where the light fell," she recalls. "In a black studio, the ring reflected only my light source and nothing else."

To attempt jewelry, you could achieve the same kind of effect by surrounding the piece with black foam-core boards, hanging black velvet around the tabletop, or shooting in a darkened room at night.

Other tips from Stevenson for nailing a shot like this:

"The challenge and fun of lighting this ring," says Stevenson, "was that I got to choose which elements stood out, and which receded into shadow."

- **Use large lights in close.** The larger and closer the light source, the broader the highlights across a piece's metal surfaces. Distant lights will appear as small, specular highlights.

- **Shoot plates.** "It's rare in a diamond this big that you can capture the entire object in a single exposure," says Stevenson. Instead, she shoots separate exposures ("plates"), each with different lighting for specific areas

of the ring. For more on plating this shot, see this month's Photo Glossary (page 36).

- **Focus your brain, then your lens.** "To shoot jewelry close-ups, you have to put on a detail-oriented hat and set it to Super Overdrive," says Stevenson with a grin. "The gem and metal surfaces are very small and you have to work in a very slow, relaxed, even Zen-like frame of mind."

—Peter Kolonia



Honing Devices

Make selective adjustments in Lightroom 5

ADOBE PHOTOSHOP Lightroom 5 offers a trio of selection tools for making targeted adjustments. They speed up your workflow and at the same time allow you to make a host of basic and advanced adjustments. Whether you want to tweak one—or a dozen—parameters individually or collectively, the Graduated Filter, Radial Filter and Adjustment Brush are both essential and convenient.

The specific adjustment parameters available with these nondestructive tools will likely be familiar to anyone who uses Lightroom or Photoshop, so you can easily decide what's best for your image. Whether you need subtle changes, as I did with this shorebird, or major modifications, this trio of special tools should be an essential part of your digital toolbox.

—Theano Nikitas

Three selection tools make precision editing in this program possible.

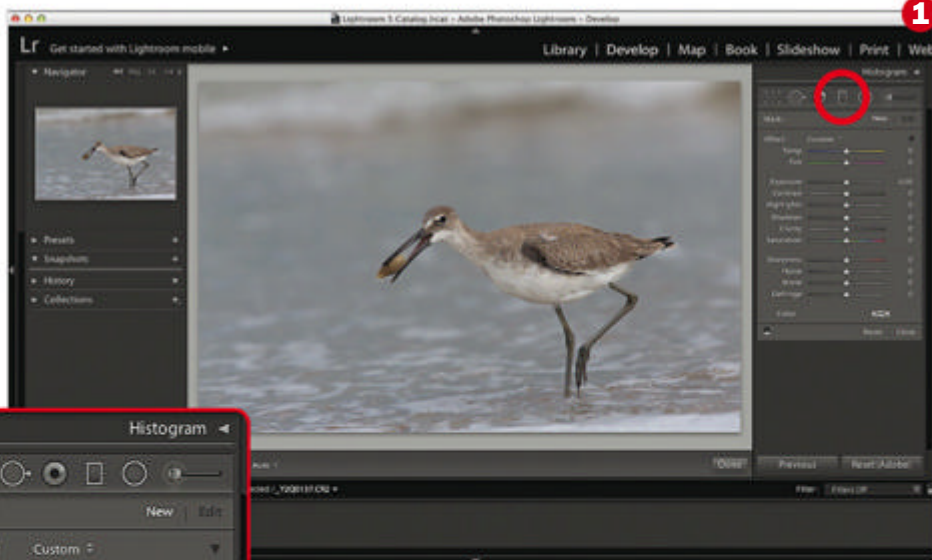
QUICK TIP

If you tweak certain parameters as a standard part of your workflow, create and save a preset. Once it is added to the list of those pre-installed by Adobe, it will be accessible using any of these adjustment tools. To make one, click the down arrow next to Custom, then choose Save Current Settings as New Preset. Name it and click Create.

Step 1

Get ready to work.

Pick your image and head to Develop. Access the adjustment panel by choosing the Graduated Filter (circled). Then set up your workspace. If screen real estate is at a premium, hide the histogram for more room. Double-click Effect to reset all sliders to zero. Below the left side of your image preview, choose Set Show Edit Pins to Auto (to see them only when you're working) or Always—these pins will indicate the areas where you have made your adjustments.

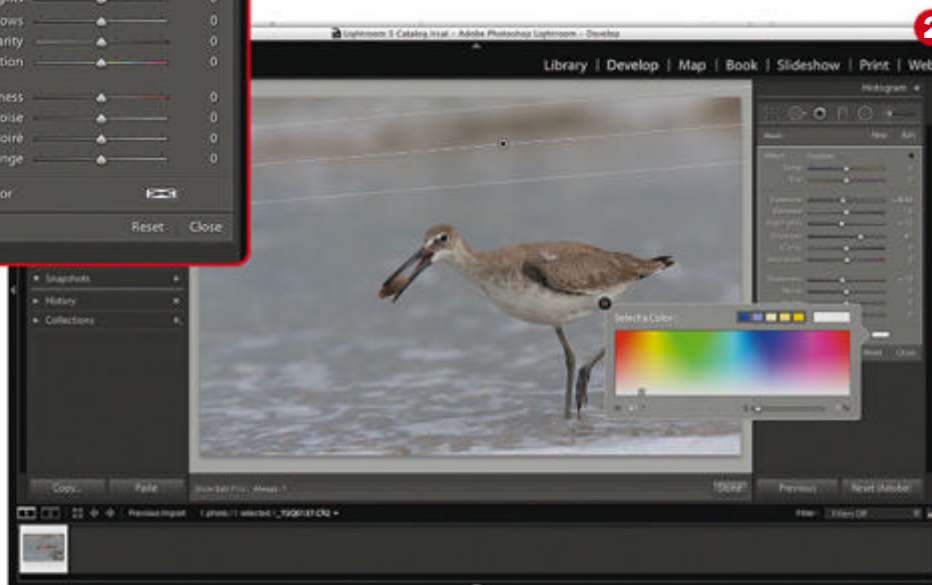
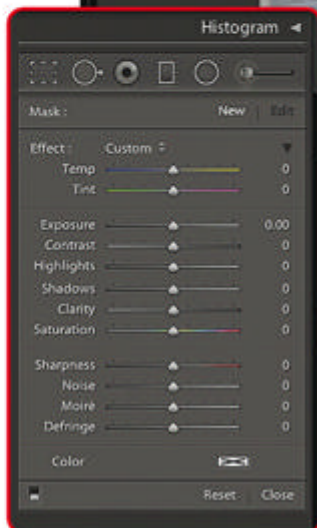


Selective Adjustment Panel Whether you're working with the Graduated Filter, Radial Filter, or Adjustment Brush, you can adjust this set of parameters.

Step 2

Graduated adjustments.

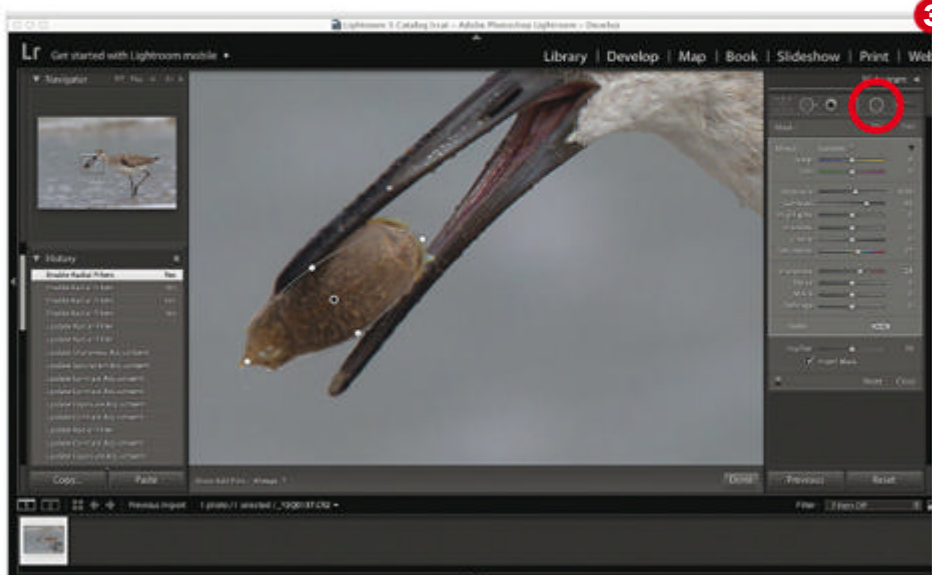
First move the sliders, then draw the filter onto your image to apply. I darkened the exposure and highlights, lightened the shadows, and decreased sharpness, then added the gradient. By dragging from the top to about a quarter of the way down, the effect was most intense at the top. Click the Color Effect palette to add a subtle tint, such as yellow/brown. Adjust the color intensity in the color panel window.



Step 3

Try the Radial Filter.

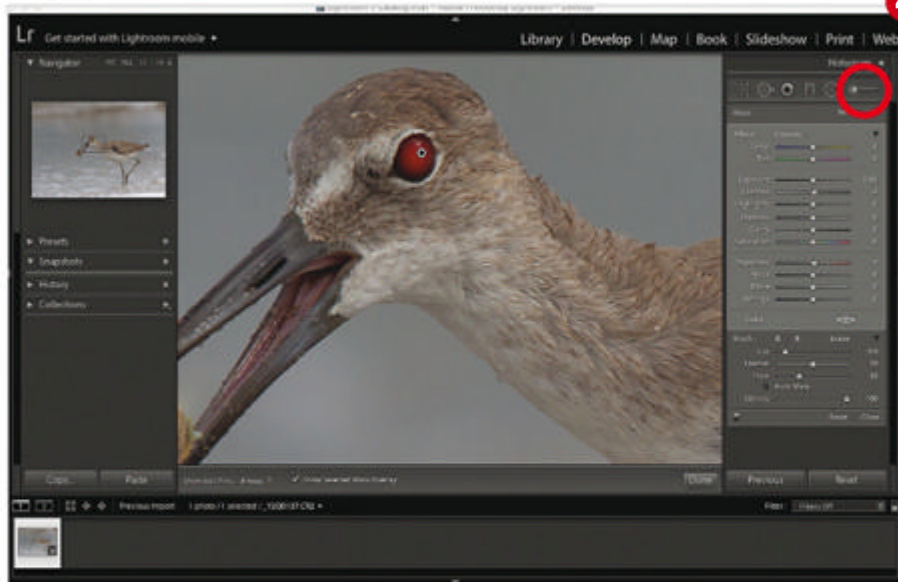
To adjust a small part of an image, choose the Radial Filter (circled). Click Invert Mask to make adjustments inside, rather than outside, the selection. Set Feather to about 50% to start. Then use the cursor to create an oval around the desired area (for a circle, hold the Shift key). Drag the anchor points to change size; drag the lines to rotate or change position. I lightened the exposure to about 0.75, increased the contrast and sharpness and added pale yellow at about 25% to help make that little morsel pop.



Step 4

Brush on sharpness.

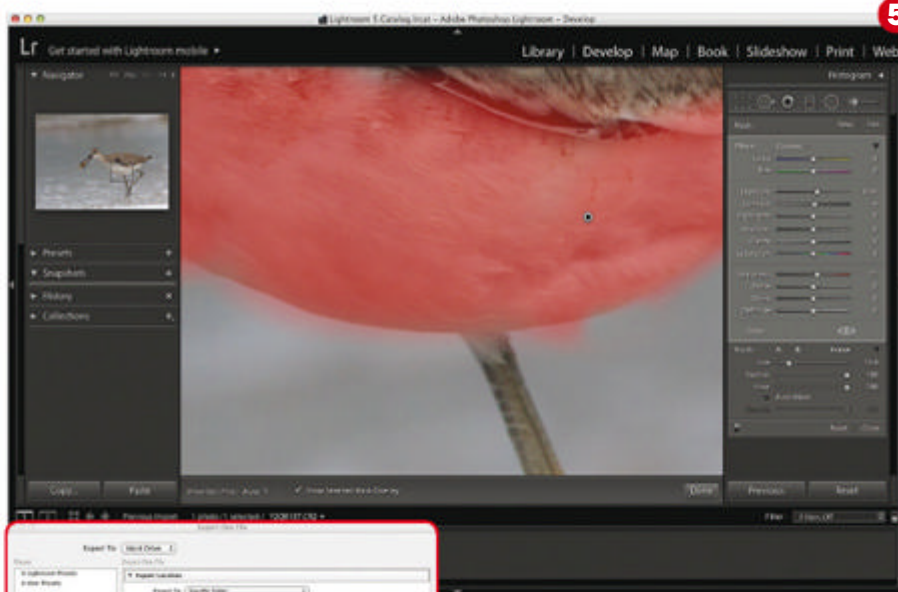
To emphasize the tiny catchlight in the bird's eye, I chose the Adjustment Brush (circled). Go to Tools > Adjustment Brush Overlay and choose a color such as red for the mask. Check Show Selected Mask Overlay below the image preview to see your mask as you work; uncheck to hide it. Use the left and right bracket keys to adjust the size of the brush. Set the Flow and Feather at the bottom of the panel to about 50% and paint the adjustment onto the area that needs sharpening. To increase Contrast and Sharpness, start low (around 4) and increase the setting as necessary.



Step 5

Keep sharpening.

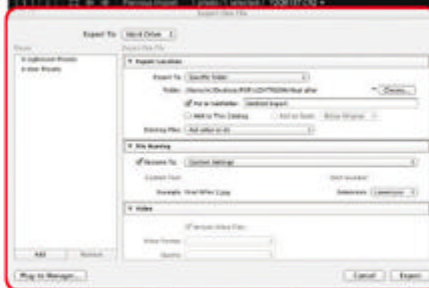
Continue painting on your image using the Adjustment Brush to brighten and increase sharpness in the bird's white feathers. Make sure to zoom in for more accuracy. I set exposure to 0.45, Contrast to 5, Sharpness to 11, and Feather to 100. For more intensity, crank up Flow to 100. Using a large brush, paint the larger areas. Lower the settings as necessary for other areas, such as the darker feathers on the bird's back. Switch to Erase to remove unwanted brush strokes.



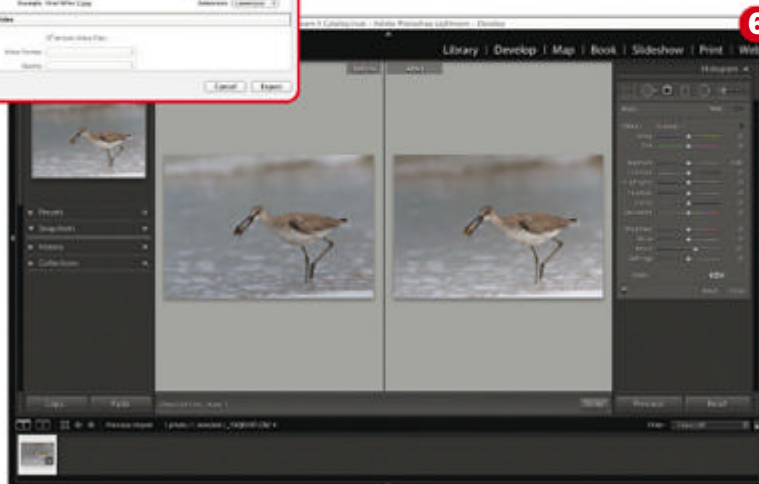
Final Step

Check your work and export.

To exit the selective adjustments, click the last tool you used or just hit Close in the bottom right of the panel. Before exporting, examine your work. Tap the Y key on your keyboard to view Before and After images side-by-side and to see if any further corrections need to be applied. The program will retain your corrections, but to see them outside of Lightroom, export your image. Go to File > Export and choose the destination, file name, and image properties. Click Export to finish.



Export It Since all edits in Lightroom are nondestructive, you'll need to export your photograph to bake in your changes.



THE COLLECTION THAT KNOWS ITS WAY AROUND THE WORLD.

HORSESHOE BEND
PAGE, ARIZONA

©Keith Briley

VEO Tripods offer a new breed of lightweight, compact usability.
Take advantage of many industry-first features designed for the traveling photographer.

THE VEO COLLECTION

TRIPODS | MONOPODS | BAGS

FEATURES

- ✓ Rapid column rotation for compact transportation and quick setup
- ✓ 3 different leg angles allow for greater versatility
- ✓ Stronger leg locks for greater maximum loading capacity
- ✓ Rubber / Spike convertible feet dependent on terrain



Model Shown VEO 235AB

Now available from Authorized
Vanguard Dealers or online at
vanguardworld.com



HOW YOU CAN DO IT

Film Star

Try soap bubble close-ups for fun

LINDEN GLEDHILL

CLOSE-UP PICTURES of soap bubbles or soap film offer an intriguing entrée to abstract photography. The image shown here by Linden Gledhill, a

biochemist and semi-pro shooter from suburban Philadelphia, is packed with kaleidoscopic colors and eddying patterns that please and tease the eye.

For gear, a DSLR with a macro lens and a set of extension tubes for getting close are musts. A tripod and macro focusing rail will also come in handy.

Start by experimenting with a single bubble blown from a toy-store soap bubble mixture on a black surface. Light it with strong but diffused sunlight and fire away.



SIMPLE COMPLEX

THE GEAR



For his soap film close-up here, Linden Gledhill used a set of extension tubes (A), a Canon Speedlite 580 EXII (B), and an Induro CT-series carbon fiber tripod (C).

Step 1

Gather your gear. In addition to the close-up equipment already mentioned, you will need a continuous light source by which to focus, a black background, and diffusion material for the light source, whose output needs to be flat, even, and soft.

Step 2

Mix the soap solution. “I used a bottle of children’s soap bubble mixture, and it’s important not shake it because micro bubbles can make the soap film unstable,” says Gledhill. Dish detergent and glycerin will also work: Mix these gently and allow them to settle overnight.

Step 3

Set up to shoot. If you’re suspending soap film across a wire frame, clamp the frame from above and place it in front of your tripod-mounted camera. Then lift the bowl of soapy liquid up to coat the frame and form a flat film plane to shoot.

Step 4

Start with a constant light source. “It’s often easiest to start out using a very bright (but diffused), continuous light, shooting at a high ISO for the fastest shutter speed possible,” says Gledhill. “This allows you a chance to get the right angle of lighting and the sharpest focus. Once you get the hang of it, move to short-duration flash bursts at low ISOs for sharper and less noisy images.” Add intricacy to the soap patterns by using a straw to blow air across the film’s surface.

Step 5

Tweak in software. Apply slight boosts to color saturation, sharpness and contrast using your favorite image editor. Dial down any noise that may result from shooting at high ISOs.

Other tips from Gledhill:

- Find the right angle. Bubble colors are best captured when light bounces off the soap film at a specific angle. Experiment to find that angle.
- Consider a tilt/shift lens. Once you find your angle, a tilt/shift lens can give the image’s patterns the appearance of having been

shot head-on for a cleaner look.

- Shoot flat soap film. Rather than shooting a bubble—which, due to its arc, can be hard to bring entirely into focus—make a 5x5-inch wire frame and dunk it into the soapy solution to create a flat plane to shoot. Your final results will be much more satisfying.

—Peter Kolonia

Linden Gledhill showcases his eye-catching close-up photography at lindengledhill.com.

For every shoot, there's ADORAMA

The widest selection of cameras & photo gear in the industry.

ADORAMAtv

Free Creative Education at
 [Youtube.com/AdoramaTV](https://www.youtube.com/AdoramaTV)



01. Nikon D750 *Bundle*

- A serious tool for serious shooters
- Built-in Wi-Fi sharing & remote control
- Cutting edge HD video capabilities
- 24.3MP FX-format sensor & EXPEED 4

\$2,296.95 SKU: INKD750A

02. Lumix DMC-GH4

- 16.05 MP Digital Live MOS Sensor
- 4K Cinematic Video
- Digital Single Lens Mirrorless
- Micro Four Thirds mount

\$1,697.99 SKU: IPCDMCGH4

03. Canon 1Dx

- 18.1 MP Full-Frame CMOS sensor
- New 61-Point High Density Reticular AF
- ISO - 100 to 51,200
- DIGIC 4 Image Processor

\$6,799.00 SKU: ICA1DX

04. Pentax 645Z

- Medium Format Digital SLR
- 51.4 effective MP CMOS sensor
- ISO - 100 to 204,800
- Beautiful, full HD movies

\$8,496.95 SKU: IPX645Z

05. Canon 600 EX-RT

- Wireless multiple flash system
- Redesigned contact construction
- Improved flash head durability
- 18 Custom Functions

\$549.00 SKU: CA600EXU

06. Nikon AF-S Nikkor 400mm f/2.8E FL ED VR

- super-telephoto fixed focal length
- Superior optical performance
- Equipped with a vibration reduction

\$11,996.95 SKU: NK40028E



Scan here to visit
ADORAMA.COM

42 W 18th ST., NYC
800-223-2500



FREE 1-3 DAY SHIPPING
on most orders over \$49*

*details at [adorama.com/shipping](https://www.adorama.com/shipping)



VIEW THESE
ITEMS ON OUR
ADORAMA.COM
FOR **CURRENT
PROMOTIONS
& SAVINGS**

07. Nikon D4S

- 16 Megapixel HD-SLR
- 36.0x23.9mm CMOS Sensor
- 51 Point AF System
- 11 FPS

\$6,496.95 SKU: INKD4S

08. Canon EF 100-400mm

- L-series super-telephoto zoom
- 1 fluorite & 1 super UD lens element
- Circular aperture (9 blades)
- New Air Sphere Coating

\$2,199.00 SKU: CA1004002U

09. Broncolor Siros 800

- WiFi and Pocket Wizard Receiver
- 1/200-1/500Sec Flash Duration
- 7 f-Stops Control Range
- 800 Watt

\$1,569.00 SKU: BCB3163207

10. Sony Alpha a7S

- Mirrorless Digital Camera
- 4K Video BIONZ X Processor
- Sony E-mount Full Frame
- ISO - 50 to 4,096,002

\$2,498.00 SKU: ISOA7S

11. Canon EOS-7D Mark II

- 20.2 Megapixel CMOS sensor
- Full HD 1080p/60 Video
- Dual Pixel CMOS AF
- Continuous 10fps Shooting

\$1,799.00 SKU: ICA7DM2

36 Years Makes
Us Experts

**Passion Makes
Us Photographers**



DIVERSE VIEWS

Clockwise:

Silk floss tree, Manú National Park, Peru. Canon EOS 5D Mark II and 16–35mm f/2.8L Canon EF lens; 1/32 sec at f/20, ISO 400.

Cicada, same location and camera, with 180mm f/3.5L EF Macro; 1/8 sec at f/8, ISO 400. Steam in Borneo's Danum Valley; Canon 5D with 500mm f/4L EF lens; 1/2000 sec at f/8, ISO 400.

INTO THE WILD

The flora and fauna of the rainforest are in danger of disappearing. To capture them before they are gone, Tim Flach photographs these subjects in their unforgiving locations—and he often does it using studio gear.

Photos by Tim Flach; text by Jack Cragar







IN A MISTY rainforest on the island of Borneo, Tim Flach found a blooming specimen of the largest flower in the world, *Rafflesia arnoldii*, which takes two days to open before closing forever. Into that remote locale he carried his trusty Hasselblad H4D-50 medium-format DSLR, 120mm f/4 Hasselblad HC Macro II lens (a 70mm full-frame equivalent), and Profoto Pro 7 lights. “I’m just mad enough to do it that way,” Flach says with a laugh, noting that such an elaborate setup is not common in damp, hard-to-access places such as Borneo’s Danum Valley Conservation Area.

But he had his reasons. “I’m all about the right tools,” says Flach, who used a tripod and a 1/63-second exposure to capture the intricate detail inside the iridescent bloom. “I chose medium format mostly for the optical quality—the lens optics,” he says. “I wanted as much visual information as I could get in one frame.” Running as a 24x12-inch spread, the image is a centerpiece in *Rainforest* (Abrams, \$60), a 2014 coffee-table book curated by Lewis Blackwell, who frequently collaborates

BUG OUT
Flach shot this closeup (opposite, top) in the Danum Valley Field Center with a Canon EOS 5D Mark II and 180mm f/3.5L EF Macro; 1/400 sec at f/20, ISO 400.

FLOWER POWER
Above, a non-blooming *Rafflesia*, also in Danum. Shot with a Hasselblad H4D-50 and 120mm f/4 HC Macro II lens; 1/4 sec at f/20, ISO 200.

BIRDING
At left, parrots in Peru’s Manú National Park, shot with the 5D Mark II and 300mm f/2.8L; 1/1000 sec at f/7.1, ISO 400.

with Flach on photo books. In a gallery setting, Flach displays his nature images as big as 10x5 feet. “I want the largest image file possible,” Flach says, “and this flower is not walking away, so I can put a tripod up and use a Hasselblad.”

Flach’s subjects are not always so still. He’s best known for artful portraits of animals—published in previous books including *More Than Human*, *Dogs*, and *Equus*—which he often shoots in controlled environments such as zoos, wildlife preserves, or his London studio. “The animals themselves are unpredictable,” he notes. “Especially if you are, say, shooting through glass, you have no control over them. They throw out things and you react.”

For his *Rainforest* series, which seeks to make viewers aware of endangered ecosystems, Flach decided he was better off out of the studio, capturing his subjects *in situ*. Shooting primarily in the Manú National Park in Peru and the Danum Valley Field Center in Malaysian Borneo, he says he had “direct exposure to what’s going on in nature.” He sees a parallel between the creative

process in the forest and in the studio: “Either way, you have to let things reveal themselves. It’s about observing what unfolds. When you’re in nature, in a sense you are a documentary photographer—you’re constantly discovering things.”

With this in mind, Flach meticulously researches his potential subjects before a photo trip. “In a sense you’re seeking out certain concepts for a picture, so you need to be prepared in your mind for what you might be looking for,” he says. “I’m one who zones in—I’m not usually a scatter-gun kind of photographer who then goes in to look and see if something works. However, for example, I might shoot a lot of frames in a sequence of clouds, to wait for and seek out the most interesting point in a cloud formation. But essentially, I tend to home in on one thing at a time.”

Having gone digital a few years ago, Flach frequently reviews his work on his camera’s LCD while in the field. “Sometimes things happen at such a pace that you don’t actually know what you’ve got, say, when a bird is flying,” he notes.



"I'm always checking the roll to see where I am and whether I need to consider another shot."

For fast-moving subjects, he often uses a Canon EOS 5D Mark III with its bursts of 10 frames per second. And that's not the only time he prefers a 35mm DSLR. "Occasionally, when I've got something that's shot with a time exposure, like the moonscape in the book, it needs a sensitivity that I couldn't get on the medium format, so I use the Canon because of its CMOS chip," he says. "There I used a 35mm f/1.4L Canon EF wide-angle lens and exposed for about five minutes."

Similarly, he prefers the smaller 35mm format in extreme micro shots. "If I'm [shooting] something that is less than a centimeter long, I would not use medium-format," he says. "This is because

of the optics and depth of field, you just can't extend even a [Hasselblad] macro lens so far, two or three times the actual size, there's no way that it's appropriate and I wouldn't go down that route. I would move over to a good macro lens on a smaller-format camera." A case in point is Flach's caterpillar image on page 52, which he shot with the 5D and a 180mm f/3.5L Canon EF macro lens.

Especially when shooting with gear designed for a studio, Flach notes the climate-related challenges of working in a rainforest. "Humidity is an ongoing plague, so you're wrapping everything up—lots of plastic bags—but you still have problems with condensation," he says. "We took Lowepro camera bags that are well-sealed for rain. But the problem is not so much that it's always raining—

UP A TREE

Flach shot this interior view of a "tree-killer" vine (above) at Danum Valley using a Canon EOS 5D Mark II and 14mm f/2.8L EF lens; 1/13 sec at f/8, ISO 1000.

FLOWER WOW

For the world's largest flower (opposite, top), Flach used a Hasselblad H4D-50 and 120mm f/4 HC Macro II lens; 1/63 sec at f/20, ISO 200.

the downpours are brief—but rather that there's always such high humidity. So you have to keep drying things out as best you can. Including one's clothes. Because you don't want the buck fly, for example, in the Amazon—which tends to go straight to your head and tries to hatch in your skull! They love damp conditions."

For assistance with these and other logistical matters, Flach relies on his contacts at ecotourism companies such as Crees in Peru and North Borneo Safari in Malaysia. "We had to get clearance and permission to shoot in these forest preserves, so we went with ecotourist operators—that was really the only way," he says, adding that he and his entourage were able to arrange private travels without other photographers. "They handled



a lot of logistics, because you had to get up the Amazon in a boat, for example,” Flach adds. “And they hooked us up with the Tambopata Research Center in Peru, which provided lodging as close as possible to the locations. Certainly it would be quite difficult to put a tent out in this environment.”

Flach says his *Rainforest* series is a work in progress,

CANOPY VIEW
For the shot above at Danum Valley, Flach used a Canon EOS 5D Mark II and 300mm f/2.8L EF lens; 1/15 sec at f/8, ISO 400.

which he expects to incorporate in a larger project for an upcoming book collaboration with climate-change experts. “The working title is *Endangered*,” he says. “It is about where we are heading as a human race with our environment. We’ll look at some of the actions that are being taken—climate change, endangered species, the effects of contra-

band that’s pressurizing species like rhinos and elephants, all of the different aspects of our impact on nature—and also some of the initiatives that have been taken by individuals to take those things on. This stuff is often a catalog of woes, isn’t it? A bit depressing. But it’s actually important to try to find information that rallies people to make a difference.”



91%

of you count a DSLR as one of your musts.



49%

use a UV filter regularly.



Gray cards?
Not that popular.

34%

shoot with them.

50% of city/
architecture shooters
use mid-range zooms,
compared with **38%**
overall.

79%
of portrait shooters
rely on their
hotshoe flash.

49%
of people
shooters use
wireless triggers.



You love stability.

77%

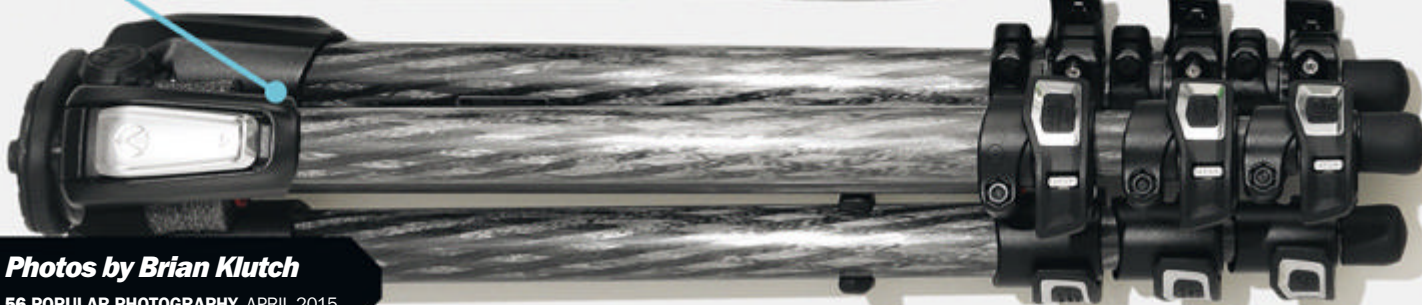
of you carry a
full-size tripod.

37%

of photographers
use CF; **77%** SD.

40%

transport cards in a
memory card wallet.



Photos by Brian Klutch

56 POPULAR PHOTOGRAPHY APRIL 2015

THE GEAR YOU LOVE

We asked. You answered. Here are the tools you rely on to make great pictures.

By Debbie Grossman

Tethered shooting is popular with pros, but only

9%

of our readers rely on it.

READER ANTHONY DECARLO

relies on a hat with a large brim. Carlos Eliason backpacks with a headlamp. Romeo Bartlett is sure to bring his Gossen Super Pilot light meter. Yes, great pictures depend mostly on the eye of a great photographer, but the gear we choose can make or break a shot. Could we live without our sling bags, polarizers, and favorite hotshoe flashes? Could we capture beautiful images without our beloved filters and mud-caked tripods? Probably. But it wouldn't be as easy, as beautiful, or as much fun.

This past winter, we set out to find out what kind of gear our readers use and love the most. We wanted to know what exactly you depend on to help you make great pictures. We were curious: Do you need the

same stuff that we think you need? What surprises would we uncover?

To do our research, we commissioned a reader survey. We asked you to tell us what kind of pictures you take most often, then we asked you to check all the gear that applied from a number of categories. What kinds of cameras? Lens types? Lighting accessories? Bags? And, of course, more. In fact, we came up with a list of some 166 items—all the photo gear we could think of from teleconverters (21 percent of you rely on these) to wireless flash triggers (40 percent use them). We sent the survey by email to a randomly selected portion of our readers, plus we posted a link on PopPhoto.com, Facebook, and Twitter. 1,641 of you responded, and we learned some interesting things.

The largest group of our

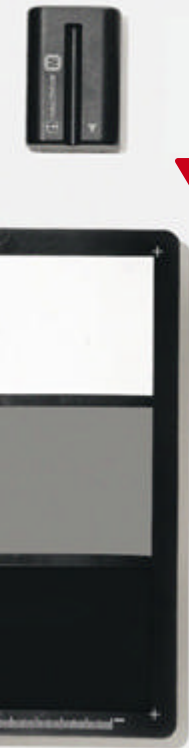
44%

back up using a portable hard drive.

Battery chargers are a must for

85%

At 17% the popularity of ILCs trails behind that of DSLRs.





70% of action/
sports shooters prefer
backpacks, compared
with **56%** overall.

readers (39 percent) told us that they shoot landscapes and nature photos most of the time. The second most popular type of photography: people (26 percent). After that we found a big gap: 9 percent of respondents primarily photograph animals or wildlife, 9 percent cited travel, and 6 percent action/sports. Still smaller groups called objects or still life (5 percent) and cities/architecture (4 percent) their favorite subjects. Abstractions (1 percent) and video (only five respondents in total) were the least common specialties. In reality, of course, most photographers embrace a range of subjects—but our question forced readers to choose just one genre to define their interests.

What you need to make your pictures depends on the kinds of pictures you make. So we were intrigued to notice that the top 10 items used for each kind of photography were so

26%

of portrait photographers
use gaffers tape—the most
of any category.



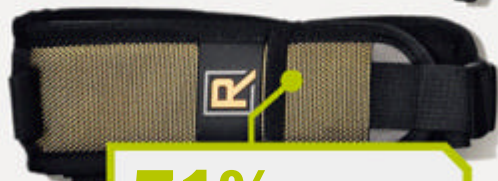
45%

use an external
memory card reader.



71%

of photographers hold their
camera with a camera strap.



similar across genres. The most popular item? The DSLR (91 percent of respondents use one). Most of you are well prepared with spare batteries and a battery charger (those were numbers two and three over all, at 86 percent and 85 percent, respectively, and made it into the top five across all genres of photography). You're also serious about stability. The fifth most popular item of the survey was a full-size tripod (77 percent). Reader James Haverstock, who shoots primarily landscapes and nature, sums it up when he says, "Technique triumphs over equipment, and you can't claim to have good technique if you are not shooting on a solid tripod. It's basic; it's essential." You bring memory cards, of course. And at 77 percent, the SD card format, used by a greater number of cameras, is more popular than CF cards at 37 percent.

"The beauty of the world around us inspires me to take my camera wherever I go. It doesn't matter how expensive or new your equipment is, the inspiration to create is the most important equipment you can have with you."

—READER MARC RAY

Is film dead? Nope. Reader Steve Karsten, who shoots mostly cities and architecture, says his most important gear is film: "I shoot lots of [Kodak] Tri-X, Ektar, and [Fujifilm] Velvia." He's not alone: 34 percent of our readers still consider their 35mm film SLR essential gear, though only 5 percent rely on a 35mm rangefinder.

Surprises? There were a few. We imagined, for example, that a reflector would be among the top items in the kit of at least 80 percent of portrait shooters, but found that only 50 percent of respondents rely on one. We figured that a graduated neutral-density filter would be more prevalent among

landscape photographers, but only 39 percent count on these. And we were really surprised to see that a polarizing filter was so high on everyone's list: It was the sixth most popular item overall, at 74 percent. Portrait shooters had it as number nine on the popularity scale—64 percent. Does this mean that portrait photographers are taking lots of pictures of people with glasses and want to reduce reflections? That they are using a polarizer when they don't need to? Or maybe it's just a result of the fact that many of you probably shoot multiple genres.

Only 9 percent of you report using gear for tethered shooting, though it's increasingly popular among pros. For instance, Adrian Gaut, who is known for his architecture and interior work, says he almost always shoots tethered. He notes, "If you're working with a team, everyone can see the work as it's progressing. If you're working with strobes you can get a sense of what's going on. And cameras have so much dynamic range that what you see on the back of the camera is not what you get in the end, so it helps to see it on a laptop."

Some of the most interesting items our readers—and pros—rely on don't technically count as photo gear. Frequent contributor and landscape



TOP CAMERAS



1	DSLR		91%
2	35mm Film SLR		34%
3	Smartphone		25%
4	Interchangable Lens System		17%
5	Point-and-Shoot Compact		16%
6	Advanced Compact		13%
7	Medium Format (film)		10%
8	Action Cam (GoPro, Etc.)		6%
9	35mm Rangefinder (film)		5%
10	Medium-Format (digital)		3%
11	EVF Superzoom		3%
12	Large-Format (film)		3%
13	Instant Print (film)		3%
14	Toy Camera/ Diana/Holga		2%
15	Pinhole		1%

and nature pro Jon Cornforth says paper towels are his most important tool (after his camera and lens, of course). Plus an umbrella—and not the kind studio photographers use on lights. “Heaven forbid a rainbow appears and I don’t have an umbrella,” he says.

Our landscape shooters (41 percent of them) put rain protection high on their lists too. But we also got some more unusual responses. Reader Paul Schatzkin says he needs knee

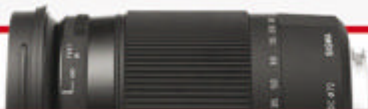
“My lens cap strap. I love the fact that I can take the lens cap off and let it drop without worrying about losing it. Every second you save fiddling with accessories is a second gained for doing actual photography.”

—READER KEN BURWOOD

pads: “I carry them with me all the time. I carry thousands of dollars of bodies and lenses, but on countless occasions (like when I’m looking for a low angle), these \$5 Home Depot gardener’s kneepads are far and away the most valuable item in my bag.” For Pedro Couto, it’s his alarm clock. After all, you don’t want to miss that sunrise.

Perhaps reader Lee Krohn best personifies the devotion and practicality of the *Popular Photography* reader. He says his most important gear is his “heart, passion, and vision”—but he also carries spare batteries and memory cards, “just to be sure.”

TOP LENSES



1	Long-Range Zoom		63%
2	Short-Range Zoom		58%
3	Normal Prime		42%
4	Middle-range Zoom		38%
5	Wide-angle Prime		25%
6	Telephoto Prime		23%
7	Super Wide-Angle Prime		11%
8	Fisheye		8%
9	Tilt/Shift		3%
10	Lensbaby		3%

ADORAMA WANTS TO BUY

YOUR USED PHOTO & VIDEO GEAR



ITS WORTH MORE THAN YOU EXPECT!

Whether consumer level, professional gear or even vintage cameras, your used equipment can easily be turned into cash or upgraded equipment.



Get a fast, free quote online at
Adorama.com/used or in our Manhattan, NY store.

◀ Scan Here to see how easy it is to sell and trade up!

 SHOP

 RENT

 PRINT

 LEARN

 TRADE

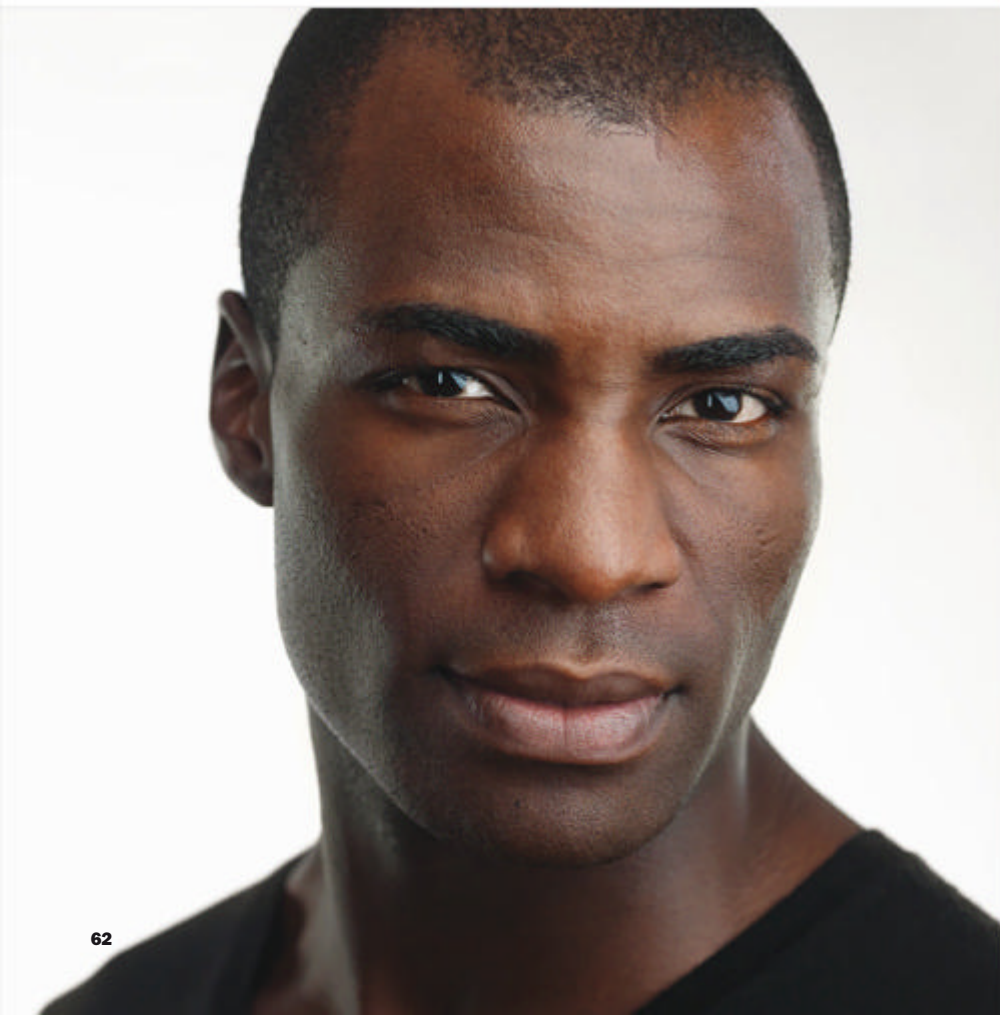
42 W 18TH ST NYC
800.223.2500
adorama.com

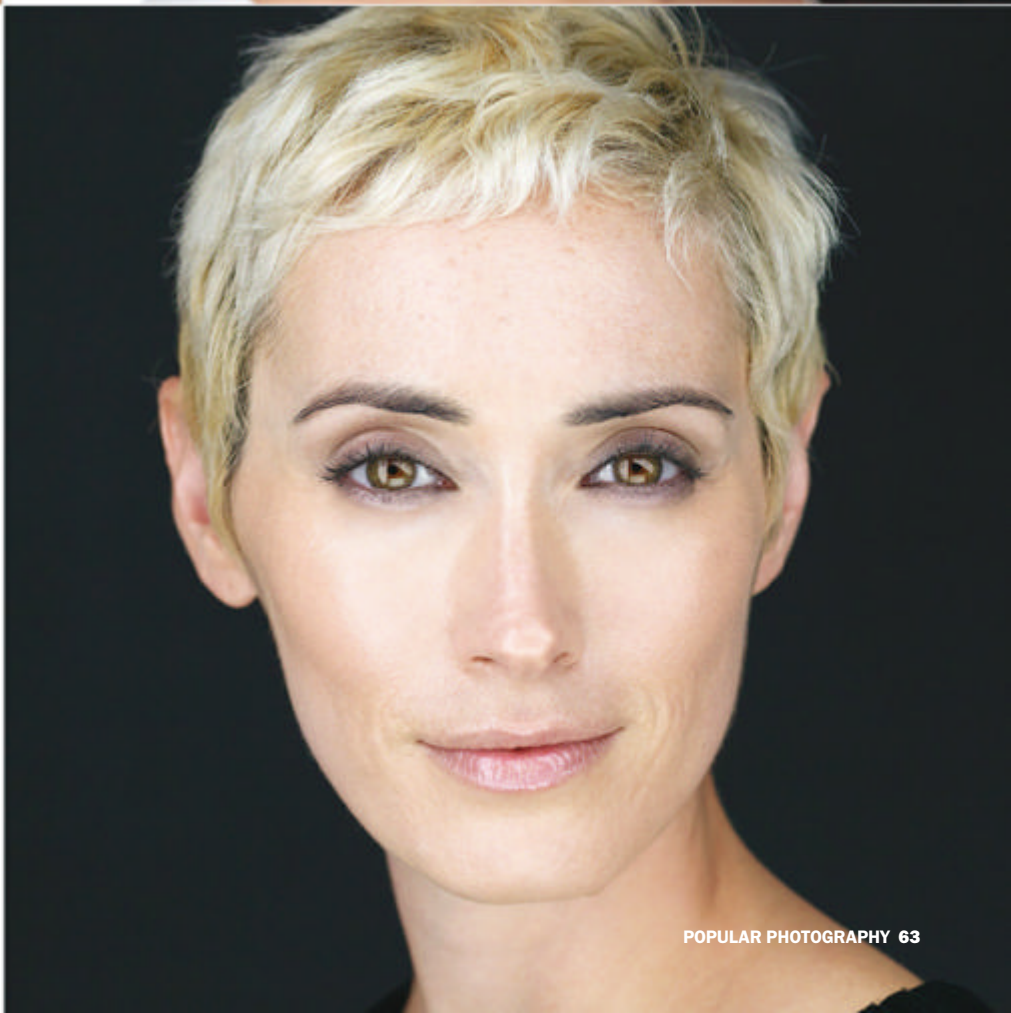
 **FREE 1-3 DAY SHIPPING**
on most orders over \$49*
*details at adorama.com/shipping

ADORAMA | **TRADE**

THE TRUEST PORTRAIT

Actors and models often live and die by their headshots. For these essential marketing tools, many of today's showbiz, fashion, and corporate pros call on one man: portraitist Peter Hurley. Here's how he makes everyone look their best, and how you can do it, too. *Photos by Peter Hurley; text by Peter Kolonia*







A former major-league fashion model, Peter Hurley stepped behind the camera ten years ago. Since then, he has become the guru of the stylized form of commercial portrait we know as a headshot. Hurley runs satellite studios in New York and Los Angeles (peterhurley.com), has designed a wide range of photo products, hosts workshops, and will soon publish a how-to book bearing his name. How does this king of portraits make images that his clients love? It's a combination of a finely tuned lighting setup and constant communication with his subjects.

TOP CROP
By cropping the top of a subject's head, Hurley is able to enlarge the eyes for a more expressive portrait. This headshot also shows the importance of subtle but flawlessly effective makeup.

For each client, Hurley sets an imposing goal: "I try to capture a look that's unique to that person," he says. All of us, he continues, have singular expressions and gestures that define our personalities. "That's what I'm after," he says. Part of this approach strives to create a photograph that has a quality he calls "lookability"—it shows something in a person's facial expression, posture, and body language that engages and holds the attention of viewers (especially casting agents).

The path to lookability starts the moment a subject enters his studio. Hurley greets each person at the door and immerses him or her in nonstop attention and

chatter. "When you're in front of my camera, I never shut up," he laughs. "I try to draw colorful expressions and reactions from my subjects the entire time we're shooting." For him, "headshots are 10 percent photography and 90 percent communication." Hurley's banter can be so engaging that, he says, "eventually the camera will disappear for many of my subjects."

Hurley is also supremely confident. His self-assuredness grows from working with a studio setup that's relatively unchanging from day-to-day. Automated and locked in, his shooting techniques have become second nature to him, and when a session begins,

he's not thinking about the lights, camera, backgrounds or even what to say. He's entirely focused on the client. "Just as important as the gear, you have to decide what you will say when you're shooting, and practice in every session to perfect it," he says.

He builds his lighting around banks of 1x4- and 1x2-foot Kino Flo fluorescent strip lights configured in a triangle or square that he places close to the set to frame the subject's head. Standing behind the lights, he shoots through a triangular or square opening, just feet from the subject. (See a photo of one of his setups on page 66.) His lighting is bright, even, and soft, but with a brilliant crispness that's strikingly flattering. For women,

this lighting usually fills in every shadow, rendering complexions smooth and wrinkle-free. "For men, I often don't fill from the bottom. I like men to look a little rugged. I like to see the detail in their faces, and don't mind lines and other imperfections. It gives them character," he says.

As the shoot progresses, Hurley searches for what is commonly called a person's "best side." He will ask subjects to angle their heads slightly one way, then the other. "Finding a person's most attractive angles is a skill photographers have to develop," he says. "Even very slight rotations of the face can make a huge difference in the image. It requires a trained eye."

Usually this skill comes from

GUIDANCE FOR GUYS

When lighting men, Hurley often won't use a fill light from below. The resulting shadows add character, he says. To make sure the head is adequately shaped, he will often add an accent light, as seen on the man's left cheek and chin here.

looking at each feature of the face—eyes, nose, forehead, mouth—and noticing when each looks its best. The process is very subjective, he says, and is "all about how the features play off of each other to create an overall impression."

Start, for example, by looking at your subject's nose. Some are curved or lean to one side. If you see that, make slight changes to the angle of the head, and find a place where the nose looks a little straighter. "Most people prefer those shots," he says. Finding angles that accent a person's attractive features—and conceal the unattractive—requires focus, and "is usually achieved with tiny adjustments to the angle of the face or the way the light falls on it"

Another goal? Defining the bone



structure or architecture of a subject's face. Hurley starts by clearly defining the jawline. "I will not shoot anyone unless his or her jawline is extended," he says. "If a person stands normally, with their chin slightly tucked in, you get something of a double chin, even with people who aren't overweight. It's not good."

To accent facial structure, he asks his subjects to bring their foreheads out and angle them down slightly. It has the effect of extending and better defining the jawline. "Like magic, moving the forehead out and down pulls the skin taut around the jaw and reveals bone structure and the shape of the face more

LEAD WITH THE CHIN

To clearly define head structure, Hurley asks subjects to extend the chin and present the jawline. Here, it also moves the face forward, drawing attention to it by throwing the far shoulder out of focus.

strongly. If you don't see that jawline, you get a round face. Extending the jaw is where all my work begins," he says.

Most headshots have a common structure: the crop is tight around the subject's face and the person looks directly into the lens. Headshot photographers want their subjects to engage with the camera, and the more expressive and animated a face's moveable features are (eyes, eyebrows, and mouth), the more successful the portrait will be. Blank, dreamy, or pensive expressions are okay for some portraits, but not headshots.

Hurley follows these conventions, but he also styles his portraits so they stand out from

the competition. He orients his headshots as horizontals, instead of the more conventional verticals, for example. Even more unusual is the way he crops the top of a person's head, as demonstrated in all the portraits here. One reason why? "I like getting close to my subjects," he says. If he moved his camera back far enough to include the entire head, chatting wouldn't be as intimate or easy.

The top crop also lets him include more of the subject below the chin. "Information like the shape of the neck, a necklace, or whatever wardrobe subjects wear, is more important to me than the top of their heads," he says. (Men with receding



SET FOR LIFE

Hurley's setup is simple and intimate, with lightbanks deployed to surround the subject's head. He's shown here photographing *Popular Photography* editor-in-chief Miriam Leuchter. She says she usually doesn't like being photographed but left his studio "feeling great." For our video of Hurley in action on this shoot and more tips from the master, go to PopPhoto.com/headshot.





hairlines tend to agree.)

"I also like the eyes above centerline," he says. "Placing the eyes too low in the composition can rob the portrait of a face's natural symmetry and doesn't communicate the subject's personality as strongly." This tighter crop also allows the eyes to take up more space and gives them more presence.

Another signature element of the Hurley headshot is something he calls "the squinch." (Several portraits on our opening spread illustrate it.) A squint-like facial expression that's centered in the eyes, the squinch gives the subject an intensely focused look, as though he or she were reacting very seriously to something the

photographer has said or that the viewer might be thinking.

A subject squinches by raising just the lower eyelid a bit. "It's not a full squint, but a slightly pinched look," says Hurley, and he reaches for it whenever a subject's facial expression takes on a deer-in-headlights look that he feels communicates discomfort.

While the squinch takes most subjects some practice to perfect, once learned it can lift the portrait from boring to brilliant in an instant.

A few more of Hurley's many tricks? If the energy in the studio starts to ebb, he throws on the brakes and asks for a wardrobe change. When the subject returns in new duds, the shoot will be

LIGHTING LADIES

As the reflections in the eyes reveal, Hurley surrounds women's heads with light sources to fill in shadows for luminously glowing complexions.

reenergized—a great reason for asking subjects to bring a few changes of clothing.

Also, to keep subjects with dark hair or clothing from fading against a black background, Hurley has developed his own matte black background boards (called HurleyPro Pro Boards). They have a chalky matte-like surface that grays down a little when faintly lit and causes darker subjects, as above, to pop cleanly off darker backgrounds.

He actually prefers white backgrounds, though. "They're timeless. I've noticed headshots that I made in 2004 look like they could have been taken last week," he says. To us, though, all his portraits seem timeless, no matter the background.

BEACH CAMERA.COM

since 1983



At the heart of the image™



✓ Top Rated
Customer
Service

✓ Fast, Free
Shipping

For All Your
Photography &
Gift Giving
Needs!

New!

D5500

A Compact DX-Format DSLR With a TouchScreen Vari-Angle Display
An Ultra-Sharp 24.2-Megapixel Sensor and the Convenience of Built-in Wi-Fi

CAMERAS • LENSES • MEMORY CARDS • FLASHES
EXTERNAL HARD DRIVES • TRIPODS • DRONES • PRINTERS & MORE!

ORDER ONLINE OR BY PHONE: 800-634-1811

SAME PRICE AT OUR SHOWROOM AND ON OUR SITE!

RETAIL SHOWROOM:

203 ROUTE 22 EAST
GREEN BROOK, NJ 08812
732-968-6400

Telephone: 1-800-57-BEACH

Email: CustomerService@BeachCamera.com

AUTHORIZED DEALER OF:

Canon SONY



OLYMPUS

RICOH

Lexar
by Micron

GARMIN

TAMRON



LG

FUJIFILM

AND MANY MORE!

LAB

AUTHORITATIVE TESTS, REVIEWS, AND BUYING

TESTS: MYLIO & FUJIFILM FUJINON XF 50-140MM F/2.8R LM OIS WR

75

TEST: CANON EF 400MM F/4 DO IS II ISM

77

78



ILC TEST

SPLASHY UPDATE

A weather-sealed ILC from Olympus gets a big boost

OLYMPUS'S OM-D E-M5 got a lot of love when it was announced back in 2012. At the time we called it one of the most attractive ILCs you can buy. After building out the OM-D line with the E-M10 and E-M1, the company was faced with the

task of updating this relatively small, weather-sealed body.

While Olympus stayed true to the main design concepts of the original, the new E-M5 Mark II (\$1,100, street, body only) includes

improvements on both the inside and outside. These include an update to the five-axis sensor-based image stabilization system, the addition of a 40MP high-res shooting mode, 5-frames-per-

OLYMPUS
OM-D
E-M5
MARK II

16.1MP Four Thirds-format CMOS sensor
5-axis sensor-based image stabilization
5-fps bursts
Video up to 1920x1080p60
\$1,100, street, body only

BRIAN KLUTCH



second bursts with continuous AF and metering, and a higher-resolution electronic viewfinder. The body design is still just as pleasing to the eye, which made us all the more anxious to run it through our battery of lab tests and field shooting to see if image quality and general handling stand up to the high bar set by the original OM-D.

In the Test Lab

Showing modest improvements over its predecessor, most notably in noise reduction, the Olympus E-M5 Mark II earned an Excellent rating in overall image quality from its lowest sensitivity of ISO 100 through ISO 800.

Given that the pixel count on its Four Thirds sensor remains 16.1MP, we didn't expect much more in the way of resolving power. Indeed, the Mark II matched the original E-M5, with the new model turning in 2530 lines per picture height instead of 2520. Those scores were measured at the lowest sensitivity of each camera: ISO 100 on the Mark II and ISO 200 for the older version.

Like its predecessor, the Mark II does a very good job of holding its resolving power through the lower half of its sensitivity range. At ISO 400 we saw no appreciable falloff, while at ISO 1600 it served up 2450 lines. From here resolution began to fall more precipitously. ISO 6400 yielded a respectable 2310 lines, but jumping to ISO 12,800 saw resolution fall to 1810, while at ISO 25,600 it hit 1650 lines.

Color accuracy remained essentially the same, coming



SHOWN WITHOUT LENS

OLYMPUS OM-D E-M5 MARK II

WHAT'S HOT

Solid IS; nifty High-Res Shot mode

WHAT'S NOT

Only one SD card slot

WHO IT'S FOR

Micro Four Thirds shooters looking for a small, versatile, weather-sealed body

FP FLASHPOINT

NEW RELEASE !

**Bring the light
you want to see
in the world.**

Rovelight 600B MonoLight
from Flashpoint. The lightweight, 600ws
wireless powerhouse that can light up
any dark corner and balance bright
sunlight. A single charge of its
interchangeable lithium battery offers
500 full power flash bursts.



[Adorama.com/Rovelight](https://www.adorama.com/Rovelight)
Available exclusively at Adorama.

 SHOP

 RENT

 PRINT

 LEARN

 TRADE

42 W 18TH ST NYC
800.223.2500
[adorama.com](https://www.adorama.com)

 FREE 1-3 DAY SHIPPING
on most orders over \$49*
*details at [adorama.com/shipping](https://www.adorama.com/shipping)

ADORAMA
MORE THAN A CAMERA STORE

LAB * ILC TEST OLYMPUS OM-D E-M5 MARK II

in just below our cutoff for an Excellent rating with an average Delta E of 7.9. The original E-M5 scored a 7.8 in this test where lower numbers are better.

Olympus's upgrade of its image stabilization system paid off, yielding an extra stop of compensation over its predecessor's. Using a 40–150mm f/2.8 Olympus M.Zuiko ED PRO lens at 150mm (a 300mm full-frame equivalent), our testers averaged 4 stops of handholding advantage; one tester got 5 stops, though none of the rest of our team could replicate this exemplary result.

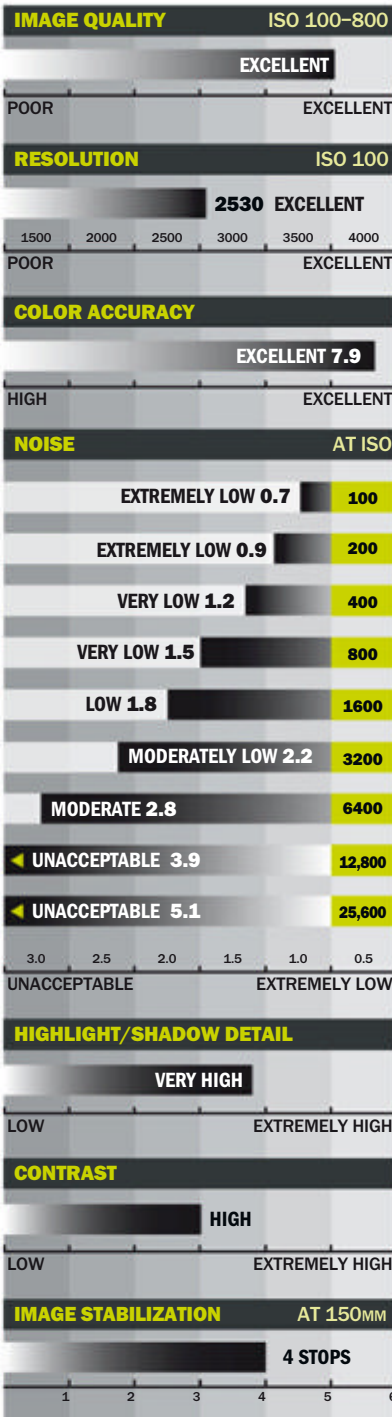
Besides steadying your frame, Olympus is using the sensor's micro mobility to create a new shooting mode it calls High-Res Shot. This mode combines eight exposures into a single image, in

either RAW or JPEG format, with the sensor shifting by a half pixel between each capture. Since the camera is essentially sub-sampling the scene, it can make an image that is substantially higher in resolution than would otherwise be possible with a 16.1MP sensor. Hasselblad's medium-format H5D-200C accomplishes a similar feat to create 200MP images from a 50MP sensor. Olympus has chosen not to quadruple the final image size but still gets great results.

When we ran our resolution test in the High-Res Shot mode, it captured 3725 lines per picture height at ISO 100. At ISO 1600, High-Res Shot mode yielded 3300 lines. Olympus limits this mode to a top sensitivity of ISO 1600. Though the company didn't give a specific reason for this, we suspect

You can learn more about how we test cameras at PopPhoto.com/reviews.

TEST RESULTS



that an excess of noise might make the composite process too difficult or less effective. Since this mode combines multiple images into one, you won't want to use it for moving subjects, and you'll also want to use a tripod or some other way to ensure that your camera is

Ready for the Shot, Guaranteed!

COTTON CARRIER

call us at 1.877.852.9423

www.cottoncarrier.com



SPECIFICATIONS

IMAGING: 16.1MP, effective, Four Thirds-size Live MOS sensor captures images at 4608x3456 pixels with 12 bits/color in RAW mode

STORAGE: SD, SDHC, SDXC (compatible with UHS-II cards). Stores JPEG, ORF RAW, RAW + JPEG

VIDEO: Up to 1920x1080p60 MOV or AVI; built-in stereo mic, stereo minijack mic input; continuous AF; image stabilization; maximum clip length approximately 29 min

BURST RATE: Full-sized JPEGs (Fine mode): 5 fps up to card capacity; RAW (12-bit): 5 fps up to card capacity when using a UHS-II memory card

AF SYSTEM: TTL contrast detection with over 800 selectable contrast focus points. Single-shot and continuous with predictive focus tracking, face detection

SHUTTER SPEEDS: 1/8000 to 60 sec (1/3-, 1/2-, or 1-EV increments); shutter life not rated

METERING: TTL metering using 324-area sensor with Multi-pattern (evaluative), centerweighted, and spot (size of spot not specified) metering; -2-20 EV (at ISO 100)

ISO RANGE: ISO 100-25,600 (in 1/3- or 1-EV increments).

FLASH: No built-in flash; ships with FL-LM3 accessory flash

EVF: Fixed eye-level 2.36 million-dot LCD with 15-step brightness adjustment; 100% accurate; 1.48X magnification

LCD: Articulating 3-inch LCD screen with 1.037 million-dot resolution; 15-step brightness adjustment

OUTPUT: Hi-Speed USB 2.0, micro-HDMI video

BATTERY: Rechargeable BLN-1 Li-ion, CIPA rating 310 shots (with IS on)

SIZE/WEIGHT: 4.9x3.3x1.8 in., 1.0 lb with card and battery

STREET PRICE: \$1,100, body only

FOR INFO: www.getolympus.com

motionless during capture.

To compare, Pentax's 645Z, which uses a 50MP medium-format sensor, captured 4425 lines at ISO 100 in our test. Nikon's 36.3MP full-frame D810 hit 3525 lines at its lowest sensitivity setting of ISO 32, so Olympus did manage to out-resolve the D810 by a modest amount. It's less clear, though, whether that will make a difference to you in everyday shooting, and the limitations that

come with High-Res Shot mean the D810 still makes more sense to shooters who want very high resolution in every situation.

In the Field

While the E-M5 Mark II is nearly the same size as the original, Olympus improved significantly

on the control layout. By shifting the dials around a bit on the top of the camera and changing their size, it fit two more assignable buttons. At default, one is assigned to toggle in and out of HDR mode. We

CONTINUES ON PAGE 89

No power? No problem! ION Portable Power for Studio Lights



Make remote shots as convenient as
studio work with the new Photogenic ION...
Lithium ION Pure Sine Wave Inverter

- Reliable, durable and compact
- Compatible with most monolights
- Standard USB port
- LED Power Monitor
- Dual 3-prong AC outlet
- Produces over 1000* flashes and recharges quickly

*Based on performance of 320 WS Monolight per charge

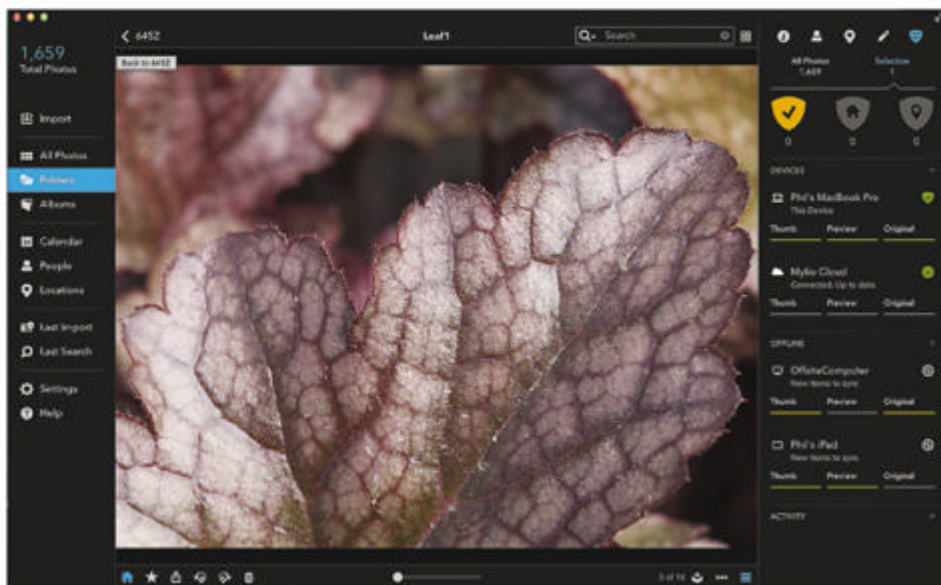


PHOTOGENIC®

(800) 682.7668 • photogenic.com



PHOTO FINDER



MANAGE IMAGES FROM ANYWHERE

WHERE ARE YOUR digital images? Are they on your computer's hard drive? Are they on USB drives that you sometimes connect to your computer but tuck away when guests come over? Are they on a bunch of thumb drives in your desk or camera bag? If you're like most people, you'll answer yes more than once—and then realize you also have photos on your cell phone, tablet, and uploaded to Facebook and other sites.

The subscription software service Mylio, which stands for My Life is Organized, hopes to offer an easy way for you to keep track of all of your images, while letting you keep scaled-down versions

A preview version of an image stored on a USB hard drive which was not attached to a computer. The shield in the Sync panel shows yellow, indicating that Mylio can't access the original version at the moment.

with you wherever you are. This way, when I ask you, "Where's that great picture of Molly you showed me at my birthday party last year?" you can find it again, send me a copy, or make a print.

Sure, other programs will back up your images, or organize and edit them, but Mylio brings with it a very smooth interface and helpful automation that we think will appeal to a lot of shooters. It comes in three different levels of service, depending on the number of photos you have and the number of devices you want access to.

The Interface

Your first experience with Mylio will likely be on its website as you download the software, or, if you start on a mobile device, the sign-up process through the app. But once you get going on your primary computer, you'll mostly use Mylio's main interface. It has an elegant look that evokes Adobe Photoshop Lightroom, especially if you use the dark color theme.

Control panels, which can be hidden, occupy the left and right sides, with a center window that can be populated by thumbnails of your images, folders, albums, people or locations that you have tagged, or a calendar view. You can adjust the preview size via the slider at the bottom of the screen. The left control panel allows you to move among these different views or to access settings, help, or the import tool to add images.

The right-hand panel has five icons depicting ways to use it: See info about a folder or image; tag people in your images; or set location tags, for instance. You do the latter by zooming in and clicking on points on an actual map—in this case using OpenMaps.

For editing, click the pencil. You can make basic adjustments, crop, and remove red eye; there's even a handy before/after toggle. All editing is nondestructive, using sidecar files to apply adjustments without permanently changing the original image. Any changes you make, though, will be populated out to all of the other devices you use with Mylio.

Marked with a shield, the Sync option gives you control over how all of your images move between your devices. Click on the icon for the type of device to rename, change general settings, or remove from Mylio. Click on the device name to vary its sync settings (more on this later).

Mylio recognizes and preserves your file structure on each device unless you tell it to make changes. But since you're likely to want to make albums with images from various folders, it includes a feature called Lightbox: Drag

MYLIO

WHAT'S HOT

No-hassle management across devices

WHAT'S NOT

No Android version yet

WHO IT'S FOR

Those who want access to their images anywhere, backed up, & copied to devices

an image down from the preview area and the Lightbox, a small horizontal strip, will open up to let you drop the image there. This doesn't actually move your image file—it's just a visual reminder that you're working with the image, or group of images. If you create an album, again your images won't move, but you'll be able to navigate through it, viewing images that actually reside in various folders.

Once you have a vast number of images in Mylio, you'll likely get to the point where you mostly look at albums curated from various folders, though you'll always have access to all the images that didn't make the cut, just in case you second-guess your selections.

Setting It Up

The initial set-up is quite simple. There are three price levels for Mylio, though you can also tinker with the free trial that lets you import up to 1,000 JPEGs across three devices. The Basic subscription costs \$50 per year and lets you import up to 50,000 JPEGs and view them on up to three devices. For \$100 you get the Standard subscription that adds RAW file support, boosts the device limit to five, and allows 100,000 images. The Advanced level costs \$250 per year, permits computers in multiple locations, has integration with Lightroom, and can handle 500,000 images.

If you don't use Lightroom and won't need to sync Mylio on devices that are never on the same local network, then you probably don't need an Advanced subscription. If you don't shoot RAW yet, try starting at the Basic level and moving up when you hit the 50,000-image limit or want to add more than three devices. Note: External storage, such as USB hard drives, doesn't count towards the device limit of your



subscription—think of a device as something you use to view your images, such as a smartphone, tablet, or notebook computer.

After choosing your subscription level, the first question you must ask yourself is whether you want to copy all of your original images into one location or if you want Mylio to watch the folders in which they already reside. It's obviously nice to have all of your images in one drive, as long as it's always properly backed up, but you don't have to do this to use Mylio. If you tell the program to watch folders, they will remain wherever you originally had them; after your initial import, Mylio will notice if images have been added or removed, and duly adjust the catalog. Likewise, if any changes have been made to a file, the program will notice and update. This also means that if you delete a file via Mylio, it will be deleted from its original location.

You can also choose between Copy or Move in importing. If you choose Copy, it will leave the original files where they were and create new versions for use with Mylio. If you choose Move, it will create copies in the Mylio directory but delete them from their original location. So if you use Lightroom or another image organizer that remembers where your original files are, that program won't find them if you choose Move when importing them after this; if you choose Copy, your other program will see the images,

These enlargements of the thumbnail views of two folders show the difference between a folder for which Mylio can't access the original images (the flower with the exclamation point inset) and a folder for which it can access the original images (the street scene with the check mark inset).

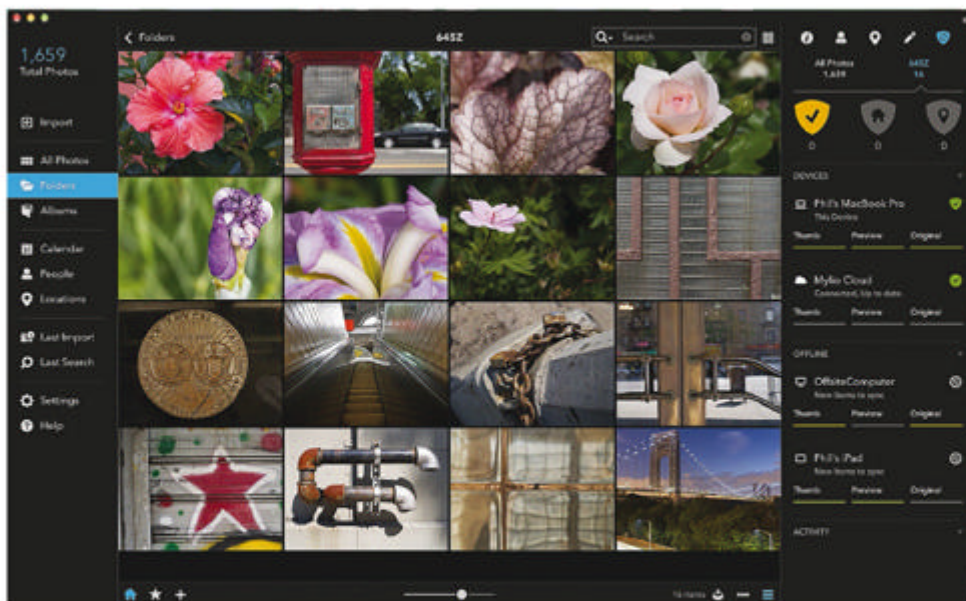


but any changes made won't be reflected automatically in Mylio.

Once you get your image library set up, you'll want to download the Mylio app to your iPhone and/or iPad if you haven't already. There is still no Android app, though the main program is available for both Mac OS X and Windows (see the sidebar on page 76 for compatible versions). You just have to log in using the credentials you established when activating the main program, and Mylio will add that device.

Since current smartphones and tablets have limited storage space, you won't want to copy all of your full-sized original images to those devices. This is where Mylio's automation shines. The system creates thumbnail versions of your images that it uses when you navigate through the various ways you can view them, as well as preview versions tailored to the screen resolution of the device. This way, you can tell Mylio to keep the original files at home and put only previews and thumbnails on your phone. Once you choose which versions of your images go on which devices, Mylio will generate them and push them out appropriately.

It also makes backing up your images a snap—and reminds you to back up regularly. If the bars below the versions of your images in the Sync panel are green, you know that they are up-to-date. If not, you'll need to turn on that device and start up Mylio so that



everything will sync. If you back up to a removable hard drive, the Sync panel reminds you to attach that drive and update your backup.

If you want to, and you're good with networked drives, you can use a Network Attached Storage (NAS) drive with Mylio. It's a handy option for backup, though a large, mirrored, removable USB drive may be an easier one. With an NAS drive, you'll have to contend with all of the pitfalls of networking. Depending on how you access your NAS drive, the settings on your router, any wireless protocols you use, and other networking wackiness that may arise, don't be surprised if you run into trouble. It's not fair to blame Mylio for the computer industry's lack of simplified networking standards, but don't say we didn't warn you.

The Bottom Line

For the hyper-organized, type-A people among us, Mylio may not be necessary. We will admit, though, that few of our photos ever made it from our computer to our tablet prior to Mylio—just the process of deciding which ones to bring over proved too bothersome, let alone resizing the images so that the

tablet wouldn't fill up. With Mylio doing all the tedious tasks, we can now bring tons of our photos with us everywhere, and create and refine photo albums wherever we are. We've ended up showing off much more of our photography than we had before.

As some early reviews noted, Mylio's integration with Lightroom isn't always perfect: At times, we found it would interpret and display edits made to RAW files in Lightroom differently than Lightroom would. We expect this issue to be resolved, but with all the different RAW formats cameras produce, it may be an ongoing challenge. Check the list of supported RAW formats on the Mylio website before expecting it to handle the files made by your camera—it supports a healthy list, but if you have an older or unusual model, it may not have made the cut.

That said, we wouldn't be surprised if Mylio were to add a camera if you email them a request. We sent a few emails to the company's customer service reps during our review period and found that they respond quickly (typically within 30 minutes) and are quite knowledgeable and helpful.

This view shows the contents of a folder in Mylio. The shields are not green because the USB drive isn't hooked up to a computer, but we can still work with pre-views and thumbnails. Once the drive is attached again, all changes will be reflected across all devices.

This is just the beginning for Mylio. The software is still in a very active stage of development and new features will continue to appear as customer feedback grows. Even though the software has been available for only a few months, there's already an Experimental Features tab in the Settings menu. One Mylio promises to add that we look forward to most? Facial recognition. You currently have to tag people individually, although Facebook images tagged with people's names will import with tags intact and the names will be automatically added to your people list in Mylio.

If your family constantly complains that they never see your pictures, Mylio can be revolutionary—you can view and search them all from any connected device. And the system reminds you to back them up, a feature that alone will keep us hooked. Most importantly, Mylio has added even more depth to our appreciation of imagery. The calendar view lets you step back through your life, or even further, and can be mind-blowing if you import enough family photos to stretch back generations.

Now to import more images.

—Philip Ryan

SPECIFICATIONS

OS REQUIREMENTS

MAC: OSX 10.8 (Mountain Lion) and later; iOS 7 or higher

WINDOWS: Windows 7 or Windows 8

HARDWARE REQUIREMENTS

MAC: Core i5 processor or better; 64GB hard drive

WINDOWS: DirectX 11 capable GPU; 512mb GPU RAM; 64GB hard drive

IOS: iPhone 4S, 5, 5s, 6, and 6+; iPad 2 and later; iPad mini; iPod touch (5th generation)

PRICE: Basic, \$50 per year; Standard, \$100 per year; Advanced, \$250 per year; free trial available

INFO: mylio.com

RARE BIRD

CANON'S NEWEST DIFFRACTIVE OPTICS TELE

PHOTOGRAPHERS familiar with Canon lenses can ID red-striped L-series glass at 30 paces. But green-striped Canon lenses—what are they? They belong to Canon's family of lenses with an unusual, diffractive optics (DO) design and include this newly redesigned EF 400mm f/4 DO IS II (\$6,899, street). All are for full-frame DSLRs and this one scales up to a 640mm on APS-C.

Diffractive optic lenses use one or more concentrically ringed glass elements that bend light toward the imaging plane more sharply than conventionally designed lenses. As a result, optical engineers can create much shorter and lighter lenses. Our 400mm DO, for example, is almost four pounds lighter than Canon's conventionally designed 400mm f/2.8L. The new lens is also 4.5 ounces lighter than the previous 400mm f/4 DO prime.

Another improvement: The previous 400mm was bedeviled with contrast issues and flare, primarily with back-lit subjects, that exerted a noticeably negative impact on sharpness compared with Canon's non-DO 400mm f/2.8L. For this new version, Canon addressed these problems, for example, by moving the DO optical group deeper into the

barrel to more effectively shade it, suppressing flare. Our field tests confirmed that the lion's share of the flare issues have been solved.

Our field tests also confirmed that the lens is infinitely easier to handle (and handhold) than a comparable non-DO 400mm tele. It balanced nicely on our EOS-1D X body, with all controls falling conveniently under our fingers. These controls include Canon's innovative AF features such as Focus Presets and electronic Power Focus for smooth video focusing.

In our test lab, the lens delivered SQF numbers in the Very Good range—much better than the Average- and Good-range performances of the Canon 400mm f/5.6L and Sigma 400mm f/5.6, respectively. DxO Analyzer 5.3 tests found Imperceptible pincushion distortion (0.05%)—significantly better than four other tested 400mm tele primes. We uncovered no vignetting, while



SPECIFICATIONS

400MM (399.97mm tested), f/4 (n.a.* tested), 18 elements in 12 groups. Focus ring turns 220 degrees.
DIAGONAL VIEW ANGLE: 6 degrees
WEIGHT: 4.07 lbs
FILTER SIZE: 52mm drop-in
MOUNTS: Canon EF
INCLUDED: Lenshood, lens strap, hard case, 52mm drop-in gelatin filter holder
STREET PRICE: \$6,899
WEBSITE: canonusa.com

TEST RESULTS

DISTORTION: At 400mm, 0.05% (Imperceptible) pincushion
LIGHT FALLOFF: At 400mm, none
CLOSE-FOCUSING
DISTANCE: 129.50 inches
MAXIMUM MAGNIFICATION RATIO: At 400mm, 1: 2.7
IMAGE STABILIZATION: 2.66 stops

AMATEUR PRO



The image stabilization of Canon's two current DO lenses was exactly the same: 2.66 extra stops of hand-holdable sharpness.

Canon's other current DO lens (the 70–300mm) showed light falloff out to f/8 at 300mm.

This lens has come a long way. Smaller and lighter, with better optics and many new features, the new EF 400mm f/4 DO IS II will be uniquely useful to sports, adventure, and nature photographers who will like its super manageable proportions.

—Julia Silber



SUBJECTIVE QUALITY FACTOR

Our standard lens test, SQF rates sharpness by print size

Size	5x7	8x10	11x14	16x20	20x24
4.0	85.5	82.6	85.5	79.0	82.6
5.6	85.5	82.6	85.5	79.0	82.6
8.0	85.5	82.6	85.5	79.0	82.6
11.0	85.5	82.6	85.5	79.0	82.6
16.0	85.5	82.6	85.5	79.0	82.6
22.0	85.5	82.6	85.5	79.0	82.6
32.0	85.5	82.6	85.5	79.0	82.6

400MM

KEY

BEST YET

A MID-RANGE TELE FOR X-SERIES FANS

FUJIFILM IS revving up its X-series of APS-C-format ILCs with new glass in varying focal lengths—juicing speed, adding weather sealing, and building in optical image stabilization. This \$1,599 (street) 50-140mm f/2.8 R LM OIS WR (a 75-210mm full-frame equivalent) has all of the above, and Fujifilm clearly worked to make this version of OIS a success.

With 23 elements in 16 groups, including one super ED and five ED glass elements, the lens claims to reduce chromatic aberration, with a coated outer element to control ghosting and flare. The barrel, rings, and mount are all metal.

At 7 inches, it is slightly longer than the comparable Samsung 50-150mm f/2.8 ED OIS but an inch shorter than Canon's 70-200mm f/2.8L IS II and Nikon's 70-200mm f/2.8G ED VR II full-frame zooms for DSLRs. The Fujifilm weighs just over 2 pounds, much less than the full-framers, of course.

With the industry's first triple-linear focusing motor, the lens offers unsurpassed AF capabilities. Its manual collar permits precise focusing but is hobbled by a turning radius that's far too long: It took several 360-degree turns to spin from infinity to close focus. The fix: start with AF, then switch to manual as you approach maximum sharpness.

FUJINON XF 50-140MM F/2.8 R LM OIS WR

WHAT'S HOT

Superb stabilization, fast, and sharp

WHAT'S NOT

Very long manual-focus turns

WHO IT'S FOR

X-camera owners who want the best tele in Fujifilm's lineup

On our test bench, the lens earned Excellent-range SQF numbers at all focal lengths, matching or beating the competition (the Canon dropped into Very Good at 200mm). In our tests using DxO Analyzer 5.3, its distortion control topped the others with Imperceptible-range pincushion distortion at all tested focal lengths. The Fujifilm, like the Samsung, showed no vignetting at all, while both full-framers struggled with Slight-range light falloff all the way through the focal range. The Fujifilm's close focus and maximum magnification landed mid-pack.

By any measure, this lens's real claim to fame is its stabilization system. Our three testers all showed at least a 4-stop gain in handheld sharpness with OIS. No other AF lens we've tested performed as well.

Although this lens is costly, it



SPECIFICATIONS

50-140MM (51.59-141.80mm tested), f/2.8 (f/2.79 tested), 23 elements in 16 groups. Focus ring turns 900 degrees. Zoom ring turns 90 degrees. Focal length marked at 50-, 70-, 90-, and 140mm.

DIAGONAL VIEW ANGLE: 31-7 degrees

WEIGHT: 2.23 lbs **FILTER SIZE:** 72mm

MOUNTS: Fujifilm X

INCLUDED: Lenshood, tripod mount collar, lens pouch

STREET PRICE: \$1,599

WEBSITE: fujifilmusa.com

TEST RESULTS

DISTORTION: At 50mm, 0.07% (Imperceptible) pincushion; at 90mm, 0.03% (Imperceptible) pincushion; at 140mm, 0.05% (Imperceptible) pincushion

LIGHT FALLOFF: At 50mm, none; at 90mm, none; at 140mm, none

CLOSE-FOCUSING DISTANCE: 38.50 in.

MAXIMUM MAGNIFICATION RATIO: At 50mm, 1:14.07; at 90mm, 1:9.16 at 140mm, 1:7.16

IMAGE STABILIZATION: 4.16 stops

AMATEUR PRO

3.17 in.

0.75 in.

1.94 in.

7.02 in.



Fujifilm tops off the lens with weather- and dust-resistant sealing and on-board stabilization.

matches or beats its rivals in price. We think its top performance, super stabilization, improved autofocus, and useful focal range at the fast f/2.8 aperture justify that price tag.

—Julia Silber



SUBJECTIVE QUALITY FACTOR

Our standard lens test, SQF rates sharpness by print size

Size	8x7	8x10	11x14	16x20	20x24
2.8	97.9	96.1	94.0	89.9	85.1
4.0	97.2	95.3	94.3	90.5	86.1
5.6	97.0	95.3	95.1	92.1	88.7
8.0	97.1	97.2	95.4	92.6	89.4
11.0	97.5	95.6	94.2	91.4	87.8
16.0	96.3	95.7	93.4	89.0	83.8
22.0	94.7	94.5	91.2	84.8	78.8

2.8	96.9	95.3	92.7	89.3	84.0
4.0	96.7	95.7	93.3	88.8	83.3
5.6	96.5	95.3	93.4	88.8	83.3
8.0	97.4	96.6	94.7	91.4	87.4
11.0	97.2	96.3	94.3	90.7	86.5
16.0	96.6	95.5	93.1	88.6	83.1
22.0	95.7	94.5	91.2	84.9	77.1

2.8	96.4	95.3	92.7	87.2	80.4
4.0	96.7	95.7	93.4	88.5	82.8
5.6	96.9	95.9	93.6	89.1	83.6
8.0	96.6	95.6	93.2	88.2	82.1
11.0	96.5	95.5	92.9	87.8	81.5
16.0	96.2	95.1	92.3	86.7	79.6
22.0	95.7	94.4	91.2	84.5	76.0

KEY

800-947-9980

212-444-6666

Fax: 212-239-7770

420 Ninth Avenue

Corner of 34th Street

New York, N.Y 10001



The Professional's Source™

Store & Mail Order Hours: Sunday 10-5 | Mon-Thurs 9-7 | Friday 9-1 EST/9-2 DST | Closed Saturday

Over 300,000 products, at your leisure
www.BandH.com

B&H Online

- **Search Capabilities**
Find products fast
- **Podcasts**
B&H experts provide essential product information in video interviews
- **Product Demos**
View products from every angle, right on your computer screen
- **Customer Reviews**
Useful feedback from other customers to help you decide
- **Live Help**
Chat online with support staff



When in New York,
Visit our SuperStore

- Over 70,000 square feet of the latest gear
- The most knowledgeable Sales Professionals
- Hands-on demos
- Convenient free parking available



Upcoming Holiday Schedule



April 3-10 Closed

We Buy, Sell, and Trade
Used Equipment

888-520-3010

Speak to a Sales Associate

www.BandH.com/used
Shop conveniently online

Prices, specifications, and images are subject to change without notice. Manufacturer rebates are subject to the terms and conditions (including expiration dates) printed on the manufacturers' rebate forms. Not responsible for typographical or illustrative errors. © 2000-2015 B & H Foto & Electronics Corp.
NYC DCA Electronics Store Lic. #0906712; NYC DCA Electronics & Home Appliance Service Dealer Lic. #0907905; NYC DCA Secondhand Dealer - General Lic. #0907906



The Professional's Source™

www.BandH.com

When in New York,
Visit our SuperStore

420 Ninth Ave.
Corner of 34th Street
New York, N.Y. 10001



- ▶ Over 70,000 square feet of the latest gear
- ▶ The most knowledgeable Sales Professionals
- ▶ Hands-on demos
- ▶ Convenient free parking available

Subscribe to our
free Catalog
BandH.com/catalog
212-444-6633



FUJIFILM X-T1 Mirrorless System Camera

- Weather-Resistant Body Construction
- Uses Fujifilm X Mount • SDHC/SDXC Card Slot
- 3.0" LCD • Intelligent Hybrid AF & Focus Peaking
- 8 fps Continuous Shooting • Built-In Wi-Fi
- Full HD 1080p Video Recording at 60 fps

Body Only #FUXT1B
with 18-55mm Lens #FUXT11855B



FUJIFILM X-E2 Mirrorless System Camera

- Uses Fujifilm X Mount Lenses • SDHC/SDXC Card Slot
- 3.0" LCD • Digital Split Image and Focus Peaking
- 7 fps Continuous Shooting • Built-In Wi-Fi
- Intelligent Hybrid AF System • Full HD 1080p Video Recording at 60 fps • Available in Black or Silver

Body Only #FUXE2*
with 18-55mm Lens #FUXE21855*



FUJIFILM X-M1 Mirrorless System Camera

- Magnesium Alloy Body • SD/SDHC/SDXC Card Slot
- Uses Fujifilm X Mount Lenses • Focal Plane Shutter
- 3.0" Tilt LCD • Built-in Wi-Fi • 100-25600 ISO
- Full HD 1080p Video with Stereo Sound
- Available in Black, Brown, Mint Green, Pink or White

Body Only #FUXM1*
with Silver XC 16-50mm Lens #FUXM11650*



SAMSUNG NX Mini Mirrorless System Camera

- Micro 4/3 System • 6 fps RAW Continuous Shooting
- 3.0" Tilting Touchscreen LCD • Built-In Wi-Fi with NFC
- Full HD 1080p Video Recording at 60 fps
- microSD, microSDHC, microSDXC Card Slot
- Available in Black, Brown, Mint Green, Pink or White

with NX-M 9mm Lens #SANXM9L*
with NX-M 9-27mm Lens #SANXM927*



Nikon 1 J4 Mirrorless System Camera

- EXPEED 4A Image Processor • Built-in Wi-Fi
- microSD, microSDHC, microSDXC Card Slot
- Uses Nikon 1 Lenses • 3.0" Touchscreen LCD
- 20 fps Shooting with Full-Time AF
- Full HD 1080p Video Recording at 60 fps
- Available in Black, Orange, Silver or White

with 10-30mm Lens #N1J41030*



Nikon 1 V3 Mirrorless System Camera

- EXPEED 4A Image Processor • Built-In Wi-Fi
- microSD, microSDHC, microSDXC Card Slot
- Uses Nikon 1 Lenses • 3.0" Tilting Touchscreen LCD
- Movie e-VR Stabilization • Hybrid AF System
- 20 fps Shooting with Full-Time AF • ISO 12800
- Full HD 1080p Video Recording at 60 fps

with 10-30mm Lens #N1V31030



OLYMPUS OM-D E-M1 Mirrorless System Camera

- TruePic VII Image Processor • Micro 4/3 System
- 3.0" Tilting Touchscreen LCD • 8 fps Shooting
- SDHC/SDXC Card Slot • Built-In Wireless
- FAST Dual Phase- & Contrast-Detection AF
- 10 fps and 1/8000 sec. Top Shutter Speed
- Dust/Splash/Freezeproof Magnesium Alloy Body

Body Only #OLEM1



OLYMPUS OM-D E-M10 Mirrorless System Camera

- TruePic VII Image Processor • Micro 4/3 System
- 3.0" Tilting Touchscreen LCD • 8 fps Shooting
- SDHC/SDXC Card Slot • Built-In Wi-Fi
- In-Body 3-Axis Image Stabilization
- Full HD 1080p Video Recording at 30 fps
- Available in Black or Silver

with 14-42mm Lens #OLEM101442*



▶ LENSES AND FLASHES for DSLR & Mirrorless Cameras

▶ FUJIFILM

Mirrorless System Lenses

14/2.8 XF R.....	899.00	56/1.2 XF R.....	999.00
18/2.0 XF R.....	599.00	60/2.4 XF Macro.....	649.00
23/1.4 XF R.....	899.00	10-24/4 XF R OIS.....	999.00
27/2.8 XF.....	449.00	16-50/3.5-5.6 XC OIS.....	399.00
35/1.4 XF R.....	599.00	18-55/2.8-4 XF R OIS.....	699.00
55-200/3.5-4.8 XF R LM OIS.....	699.00		
50-230/4.5-6.7 XC OIS.....	399.00		

▶ Nikon

Nikon 1 Mirrorless Lenses

10/2.8 AW.....	196.95	10-30/3.5-5.6 VR PD.....	296.95
10/2.8.....	246.95	10-100/4.0-5.6 VR.....	546.95
18.5/1.8.....	186.95	11-27.5/3.5-5.6 AW.....	146.95
32/1.2.....	896.95	11-27.5/3.5-5.6.....	186.95
6.7-13/3.5-5.6 VR.....	496.95	30-110/3.8-5.6 VR.....	246.95
10-30/3.5-5.6 VR.....	186.95	70-300/4.5-5.6 VR.....	996.95

▶ SAMSUNG

Mirrorless System Lenses

10/3.5 Fisheye.....	CALL	30/2.0 NX Pancake.....	CALL
16/2.4 Pancake.....	CALL	45/1.8.....	CALL
20/2.8 Pancake.....	CALL	45/1.8 [T6] 2D/3D.....	CALL
60/2.8 Macro ED OIS SSA.....	CALL		
85/1.4 ED SSA.....	CALL	18-55/3.5-5.6 OIS.....	CALL
12-24/4-5.6 E.....	CALL	18-200/3.5-6.3 ED OIS.....	CALL
16-50/3.5-5.6 ED OIS.....	CALL	20-50/3.5-5.6 ED I.....	CALL
16-50/2.8 S ED OIS.....	CALL	50-200/4-5.6 ED OIS II.....	CALL

▶ Panasonic

Lumix G Vario Mirrorless System Lenses

8/3.5 Fisheye.....	639.95	14/2.5 Aspherical.....	324.95
15/1.7 Aspherical Leica DG Summilux.....	597.99		
20/1.7 II Aspherical.....	427.99		
25/1.4 Aspherical Leica DG Summilux.....	597.99		
42.5/1.2 Asph. Power OIS Leica DG Noct Nixon.....	1,597.99		
45/2.8 Asph. Mega OIS Leica DG Macro-Elmarit.....	897.99		
7-14/4.0 Asph.....	968.00	12-35/2.8 X Asph.....	997.99
12-32/3.5-5.6 Asph.....	347.99	35-100/2.8.....	1,497.99
14-42/3.5-5.6 Aspherical Mega OIS.....	167.00		
14-42/3.5-5.6 X PZ Power OIS (Silver).....	316.00		
14-45/3.5-5.6 Aspherical Mega OIS.....	289.00		
14-140/4.0-5.8 HD Aspherical Mega OIS.....	429.95		
14-140/3.5-5.6 Aspherical Power OIS.....	560.49		
45-150/4-5.6 Asph.....	249.00	45-200/4-5.6 OIS.....	269.00
45-175/4-5.6 X OIS.....	379.00	100-300/4.0-5.6 OIS.....	597.99

▶ OLYMPUS

Flash System

FL-300R Flash.....	136.95	RF-11 Ring Flash.....	249.95
FL-600R Flash.....	299.95	SRF-11 Ring Set.....	559.95
FL-50R Flash.....	499.95	TF-22 Twin Flash.....	449.95
STF-22 Twin Flash Set.....	739.95		

M.Zuiko Micro 4/3 Mirrorless Lenses

9mm f/8.0 Fisheye Body Cap Lens.....	99.00		
15mm f/8.0 Fisheye Body Cap Lens.....	49.00		
12/2.0 (46e).....	799.00	45/1.8 (37e).....	399.00
17/2.8 (37e).....	299.00	60/2.8 Mac ED (46e).....	499.00
17/1.8 (46e).....	499.00	75/1.8 ED (58e).....	899.00
25/1.8 (46e).....	399.00	9-18/4.0-5.6 (62e).....	699.00
12-40/2.8 Pro ED (62e).....	999.00		
12-50/3.5-6.3 ED EZ (52e).....	499.00		
14-42/3.5-5.6 EZ ED (37e).....	349.00		
14-42/3.5-5.6 II R (37e).....	299.00		
14-150/4-5.6 (58e).....	599.00		
40-150/4-5.6 ED R (58e).....	199.00		
75-300/4.8-6.7 II ED (58e).....	549.00		

▶ PENTAX

AF Flash System

AF-360FGZ.....	AF-540FGZ II.....
----------------	-------------------

DA Digital AF Lenses

15/4.0 ED AL HD Limited (49e).....	
14/2.8 ED IF (77e).....	35/2 AL (49e).....
21/3.2 AL Limited (49e).....	40/2.8 Limited (49e).....
35/2.8 Macro HD Limited (49e).....	
40/2.8 HD Limited (49e).....	560/5.6 ED AW (112e).....
50/1.8 (52e).....	10-17/3.5-4.5 ED IF (77e).....
55/1.4 SDM (58e).....	12-24/4 ED AL IF (77e).....
70/2.4 HD Limited (49e).....	16-50/2.8 ED AL SDM (77e).....
200/2.8 ED IF SDM.....	17-70/4.0 AL IF SDM (67e).....
300/4.0 ED IF SDM (77e).....	18-55/3.5-5.6 AL WR (52e).....
18-135/3.5-5.6 ED AL (IF) DC WR (62e).....	
18-270/3.5-6.3 ED SDM (62e).....	
20-40/2.8-4 HD Limited ED DC WR (55e).....	
50-135/2.8 ED SDM (67e).....	50-200/4-5.6 ED WR (52e).....
55-300/4-5.8 HD ED WR (58e).....	
60-250/4.0 ED IF SDM (67e).....	

"FA" AF Lenses for 35mm & Digital SLRs

31/1.8 Limited.....	50/1.4 (49e).....
35/2.4 AL (49e).....	50/2.8 Macro (52e).....
43/1.9 Limited (49e).....	77/1.8 Limited (49e).....
100/2.8 D FA WR Macro (49e).....	

Flash System

HVL-F20M.....	149.99	20/2.8 (49e).....	348.00
HVL-F20S.....	149.99	24/1.8 (49e).....	1,098.00
HVL-F43M.....	398.00	30/3.5 Macro (49e).....	278.00
HVL-F60M.....	548.00	35/1.8 OSS (49e).....	448.00
E-Mount Mirrorless Lenses		35/2.8 ZA (49e).....	798.00
55/1.8 OSS (49e).....	298.00		
16/2.8 (49e).....	248.00	55/1.8 ZA FE (49e).....	998.00
10-18/4 OSS (62e).....	848.00		
16-50/3.5-5.6 OSS (40.5e).....	348.00		
16-70/4 ZA OSS (55e).....	998.00		
18-55/3.5-5.6 (49e).....	298.00		
18-105/4 G OSS (72e).....	598.00		
18-200/3.5-6.3 (67e).....	898.00		
18-200/3.5-6.3 OSS (62e).....	848.00		
18-200/3.5-6.3 PZ OSS (67e).....	1,198.00		
24-70/4 ZA OSS (67e).....	1,198.00		
28-70/3.5-5.6 OSS (55e).....	498.00		
55-210/4.5-6.3 OSS (49e).....	348.00		
70-200/4.0 G OSS (72e).....	1,498.00		

Digital Lenses

16/2.8 Fish-eye.....	998.00	20/2.8 (72e).....	748.00
24/2 Carl Zeiss (72e).....			1,398.00
30/2.8 DT Macro (49e).....			198.00
35/1.4 G (55e).....	1,498.00	50/1.8 DT (49e).....	168.00
35/1.8 DT (55e).....	218.00	50/1.4 (55e).....	448.00
50/1.4 Carl Zeiss ZA (72e).....			1,498.00
50/2.8 Macro (55e).....	598.00	85/2.8 (55e).....	298.00
85/1.4 Carl Zeiss (72e).....			1,698.00
100/2.8 Macro (55e).....			798.00
135/1.8 Carl Zeiss (77e).....			1,798.00
135/2.8 STF (72e).....			1,398.00
300/2.8 G APO II (42eR).....			7,498.99
500/4 G (42eR).....			12,998.00
11-18/4.5-5.6 DT (77e).....			798.00
16-35/2.8 ZA SSM (77e).....			1,998.00
16-50/2.8 DT (40.5e).....			798.00
16-80/3.5-5.45 DT (62e).....			998.00
16-105/3.5-5.6 DT (62e).....			698.00
18-55/3.5-5.6 DT SAM II (55e).....			218.00
18-135/3.5-5.6 (62e).....			498.00
18-250/3.5-6.3 DT (62e).....			648.00
24-70/2.8 Carl Zeiss (77e).....			1,998.00
28-75/2.8 (67e).....			898.00
55-200/4.0-5.6 DT (55e).....			198.00
55-300/4.5-5.6 DT (62e).....			298.00
70-200/2.8 G SSM II (77e).....			2,998.00
70-300/4.5-5.6 G (62e).....			998.00
70-400/4-5.6 G2.....			2,198.00
1.4x Teleconverter.....	548.00	2x Teleconverter.....	548.00

Panasonic Lumix DMC-GM1 Mirrorless System Camera

- Venus Engine Image Processor • Micro 4/3 System
- 3.0" Touchscreen LCD • SDHC/SDXC Card Slot
- Full HD 1080i AVCHD Video at 60 fps • ISO 25600
- 5 fps Continuous Shooting • Built-In Wireless
- Highly Compact Magnesium Alloy Body
- Available in Black or Orange



with 12-32mm Lens #PADMCGM1*

16 Mega Pixels

Panasonic Lumix DMC-GX7 Mirrorless System Camera

- Micro 4/3 System • 3.0" Tilting LCD Touchscreen
- SDHC/SDXC Card Slot • 90° Tilting EVF
- Full HD 1080p AVCHD Video at 60 fps
- Focus Peaking and Magnification Windows
- Built-In Wireless and NFC Connectivity
- Available in Black or Silver



with 14-42mm II Lens #PADMCGX7K*

16 Mega Pixels

Panasonic Lumix DMC-GH4 4K Mirrorless System Camera

- DCI 4K 4096x2160 at 24p • Full HD up to 60p
- UHD 4K 3840x2160 at 30p/24p • 3.0" LCD
- Live View Finder • High-Speed 49-Point AF
- 4:2:2 8-Bit or 10-Bit HDMI Output
- Support for 59.94p, 23.98p, 50p, & 24p
- Magnesium Alloy, Weather-Sealed Body



Body Only #PADMCGH4*

16 Mega Pixels

PENTAX K-3 DSLR Camera

- PRIME III Image Processor • 3.2" LCD
- Pentax K Lens Mount • Dual SD Card Slots
- In-Camera Shake Reduction Stabilization
- Full HD 1080i/p Video Recording
- Continuous Shooting up to 8.3 fps
- Weather-Sealed Magnesium Alloy Body



Body Only #PEK3

23 Mega Pixels

SONY Alpha A6000 Mirrorless System Camera

- 3.0" Tilting LCD • Uses Sony E-mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo
- Card Slot • Up to 11 fps Shooting • ISO 25600
- Full HD 1080i/p AVCHD Video at 24/60 fps
- Built-In Wi-Fi Connectivity with NFC
- Available in Black or Silver



Kit with 16-50mm OSS Lens #SOA6000*

24 Mega Pixels

SONY Alpha A7 Mirrorless System Camera

- Full Frame Exmor CMOS Sensor • 3.0" Tilttable LCD
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo
- Card Slot • Uses Sony E-mount Lenses
- Built-In Wi-Fi and NFC • Direct Access Interface
- Full 1080/60p with Uncompressed Output



Body Only #SOA7B

Kit with 28-70mm Lens #SOA7KB

24 Mega Pixels

SONY Alpha SLT-A58 DSLR Camera

- 2.7" Tilting LCD • Uses Sony Alpha mount Lenses
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo
- Card Slot • Full HD 1080i/p Video at 60 or 24fps
- 51fps Full Resolution Continuous Shooting
- SteadyShot INSIDE Image Stabilization
- ISO 100-16000 with Noise Reduction



DT 18-55mm SAM II Lens #SOSLTA58K

20 Mega Pixels

SONY a77 II DSLR Camera

- 3.0" 3-Way Tilting LCD • 12fps Shooting
- Uses Sony Alpha mount Lenses
- Full HD 1080p Video Recording at 60 fps
- SDHC, SDXC, MS Pro Duo, MS PRO HG Duo, XC-HG Duo Card Slot • ISO 25600
- Built-In Wi-Fi Connectivity with NFC



Body Only #SOA772

24 Mega Pixels

LENSES AND FLASHES for DSLR & Mirrorless Cameras

TAMRON

Six-Year Warranty

DI for both digital and film SLR cameras

DI-II for Digital SLRs Only DI-III for mirror-less cameras Only

Rebates Expire 2-28-15

C = Canon N = Nikon P = Pentax SA = Sony Alpha SE = Sony E Mount

		SKU #	Avail. for	Rebate	Price
DI-II	60mm f/2.0 LD IF Macro (55e)	#TA6020D*	C, N, SA	—	524.00
DI	90mm f/2.8 Macro (55e)	#TA9028M*	C, N, P, SA	—	499.00
DI	90mm f/2.8 SP Macro VC USD (58e)	#TA9028VC*	C, N	\$50	699.00**
DI	180mm f/3.5 LD IF Macro (72e)	#TA18035*	C, N, SA	—	739.00
DI-II	10-24/3.5-4.5 (77e)	#TA102435*	C, N, P, SA	—	499.00
DI-II	16-300/3.5-6.3 VC PZD (67e)	#TA1630035DI*	C, N, SA	\$30	599.00**
DI-II	17-50/2.8 XR LD IF Asph. (67e)	#TA175028*	C, N, P, SA	—	499.00
DI-II	17-50/2.8 XR VC LD IF Asph. (67e)	#TA175028*Q	C, N	—	649.00
DI-II	18-200/3.5-6.3 (62e)	#TA1820035*	C, N, P, SA	—	199.00
DI-III	18-200/3.5-6.3 VC (62e)	#TA1820035S*	SE Black or Silver	—	739.00
DI-II	18-270/3.5-6.3 VC PZD (62e)	#TA18270*	C, N, SA	\$50	399.00**
DI	24-70/2.8 VC USD (82e)	#TA247028*	C, N, P, SA	\$100	1,199.00**
DI	28-75/2.8 XR (67e)	#TA287528*	C, N, P, SA	—	499.00
DI	28-300/3.5-6.3 XR LD (62e)	#TA2830035XD*	C, P, SA	—	419.00
DI	28-300/3.5-6.3 VC PZD (67e)	#TA2830035DI*	C, N, SA	—	849.00
DI	70-200/2.8 LD IF Macro (77e)	#TA7020028M*	C, N, P, SA	—	769.00
DI	70-200/2.8 SP VC USD (77e)	#TA7020028*	C, N, SA	\$100	1,399.00**
DI	70-300/4-5.6 LD Macro (62e)	#TA703004*	C, N, P, SA	—	199.00
DI	70-300/4-5.6 VC USD (62e)	#TA70300*	C, N, SA	\$50	399.00**
DI	150-600/5-6.3 VC USD (95e)	#TA150600S*	C, N, SA	—	1069.00
	1.4x SP AF Pro Teleconverter	#TA14XP*	C, N	—	224.00
	2x SP AF Pro Teleconverter	#TA2XP*	C, N	—	254.00

ZEISS Touit Mirrorless Lenses

These fully-compatible lenses with autofocus expand the capabilities of both the Sony NEX and Fujifilm X camera systems with outstanding optical quality.

	Fujifilm X	Sony NEX	Price
12mm f/2.8 (67e)	#ZET2812X	#ZET2812E	999.00
32mm f/1.8 (52e)	#ZET1832X	#ZET1832E	720.00
50mm f/2.8M (52e)	#ZET5028MX	#ZET5028ME	999.00

Tokina

DX – for Digital SLRs Only FX – Designed for full frame DSLRs

	Canon EOS	Nikon AF	Price
FX 100mm f/2.8 Pro D Macro (52e)	#T010028PCAF	#T010028PNAF	379.00
DX 10-17mm f/3.5-4.5 ATX Fisheye	#T0101735CAF	#T0101735NAF	549.00
DX 11-16mm f/2.8 Pro (77e)	—	#T0111628PDXN	426.00
DX 11-16mm f/2.8 Pro II (77e)	#T0111628PCII	#T0111628PNII	479.00
DX 12-28mm f/4.0 Pro (77e)	#T012284DXC	#T012284DXN	449.00
FX 16-28mm f/2.8 Pro	#T01628FXC	#T01628FXN	629.00
FX 17-35mm f/4 Pro (82e)	#T01735F4FCX	#T01735F4FXN	449.00

SIGMA

DC – for Digital SLRs Only DG – Optimized for Digital SLRs DN – Designed for Mirrorless Cameras.

H – HSM Model with Canon, Nikon, Sigma	Mount	SKU #	Rebate	Price
DC 4.5/2.8 EX Circular Fisheye HSM R	C, N, P, SI, SA	#SI4528EX*	\$100	799.00**
DG 8/3.5 EX Circular Fisheye HSM R	C, N, SI, SA	#SI835*	—	899.00
DC 10/2.8 EX Fisheye HSM R	C, N, SA	#SI1028EXDC*	—	649.00
DG 15/2.8 EX Diagonal Fisheye R	C, N, P, SI, SA	#SI1528DG*	—	609.00
DN 19/2.8 (46e) Black or Silver	MFT, SE	#SI1928DN*	—	199.00
DG 20/1.8 EX DF RF Aspherical (82e)	C, N, SA	#SI2018*	—	629.00
DG 24/1.8 EX DF Asph. Macro (77e)	C	#SI2418MCAFC	—	549.00
DG 28/1.8 EX DF Asph. Macro (77e)	C	#SI2818MCAFC	—	449.00
DN 30/2.8 (46e) Black or Silver	MFT, SE	#SI3028DN*	—	199.00
DC 30/1.4 HSM (62e)	C, N, P, SI, SA	#SI3014DCHSM*	—	499.00
DG 35/1.4 HSM (67e)	C, N, P, SI, SA	#SI3514*	—	899.00
DG 50/1.4 EX HSM (77e) H	C, N, SA	#SI5014*	\$100	399.00**
DG 50/1.4 HSM (77e) H	C, N, SI, SA	#SI5014A*	—	949.00
DG 50/2.8 EX Macro (55e)	C, N	#SI5028MDG*	—	369.00
DN 60/2.8 (46e) Black or Silver	MFT, SE	#SI6028DN*	\$30	209.00**
DG 70/2.8 EX Macro (62e)	N, P	#SI7028MDG*	—	499.00
DG 85/1.4 EX HSM (77e)	C, N, P, SI, SA	#SI8514*	—	969.00
DG 105/2.8 EX Macro OS HSM (62e)	C, N, SI, SA	#SI10528MDG*	\$300	669.00**
DG 150/2.8 EX APO Macro OS HSM (72e)	C, N, SI, SA	#SI15028AMO*	—	1,099.00
DG 180/2.8 EX APO Macro OS HSM (86e)	C, N, SI, SA	#SI18028AMEO*	—	1,699.00
DG 300/2.8 APO EX HSM (46e Rear)	C, N, P, SI, SA	#SI30028DG*	—	3,399.00
DG 500/4.5 APO EX HSM (46e Rear)	C, N, P, SI, SA	#SI50045DG*	—	4,999.00
DC 8-16/4.5-5.6 HSM	C, N, S	#SI8164556*	—	699.00
DC 10-20/4-5.6 EX HSM (77e)	C, N, P, SI, SA	#SI102045D*	\$80	399.00**

C = Canon MFT = Micro 4/3 N = Nikon O = Olympus P = Pentax SI = Sigma SA = Sony Alpha SE = Sony E

R – Rear Slip-in Gelatin Filter Slot	Mount	SKU #	Rebate	Price
DC 10-20/3.5 EX HSM (82e)	C, N, P, SI, SA	#SI102035*	—	649.00
DG 12-24/4.5-5.6 EX Asph. HSM II	C, N, SI, SA	#SI122445*	—	949.00
DC 17-50/2.8 EX OS HSM (77e)	C, N, P, SI	#SI175028*	\$150	519.00**
DC 17-70/2.8-4.0 OS Mac HSM TSC (72e)	C, N, P, SI, SA	#SI177028A*	—	499.00
DC 18-35/1.8 HSM (72e)	C, N, P, SI, SA	#SI183518DC*	—	799.00
DC 18-200/3.5-6.3 OS II HSM (72e)	N, SI, SA	#SI1820035*	—	499.00
DC 18-200/3.5-6.3 OS Macro HSM (62e)	C, N, P, SI, SA	#SI1820035D*	—	399.00
DC 18-250/3.5-6.3 OS Macro HSM (62e)	C, N, P, SI, SA	#SI1825035M*	\$200	349.00**
DC 18-300/3.5-6.3 OS Macro HSM (72e)	C, N, P, SI, SA	#SI1830035*	—	579.00
DG 24-70/2.8 EX IF HSM (82e)	C, N, SI, SA	#SI247028*	—	899.00
DG 24-105/4.0 OS HSM (82e)	C, N, SI, SA	#SI24105*	—	899.00
DG 50-500/4.5-6.3 APO OS HSM (95e)	C, N, P, SI, SA	#SI505004563*	\$150	1,509.00**
DG 70-200/2.8 EX APO OS HSM (77e)	C, N, P, SI, SA	#SI7020028*	\$200	1,199.00**
DG 70-300/4-5.6 Macro (58e)	C, N, P, SI, SA	#SI703004*	—	169.00
DG 70-300/4-5.6 APO Macro (58e)	C, N, P, SI, SA	#SI703004DG*	—	179.00
DG 120-300/2.8 OS HSM (105e)	C, N, S	#SI120300*	—	3,599.00
DG 120-400/4.5-5.6 APO OS HSM (77eR)	C, P, SI	#SI120400*	—	899.00
DG 150-500/5-6.3 APO OS HSM (86e)	C, N, P, SI, SA	#SI150500*	\$200	869.00**
DG 1.4x EX APO Tele-Converter	C, N, S	#SI14XDG*	—	249.00
DG 2x EX APO Tele-Converter	C, N, S	#SI2XDG*	—	299.00

SIGMA FLASHES

		SKU #	Rebate	Price
DG EF-610 ST	C, N, P, SI, SA	#SIEF610ST*	—	165.00
DG EF-610 Super Flash	C, N, P, SI, SA	#SIEF610*	—	255.00
DG EM-140 TTL Ringlight	C, N, P, SI, SA	#SIEM140DG*	—	379.00



The Professional's Source™

Over 300,000 products,
at your leisure

www.BandH.com



800-947-9980
212-444-6666

Fax:

212-239-7770

Store & Mail Order Hours:

Sunday 10-5 • Mon.-Thurs. 9-7
Friday 9-1 EST/9-2 DST
Saturday Closed

Upcoming Holiday Schedule

April 3-10 Closed

When in New York,
Visit our SuperStore

420 Ninth Ave.
Corner of 34th Street
New York, N.Y. 10001

We Buy, Sell and Trade
Used Equipment



The Professional's Source™

www.BandH.com

When in New York,
Visit our SuperStore

420 Ninth Ave.
Corner of 34th Street
New York, N.Y. 10001



- ▶ Over 70,000 square feet of the latest gear
- ▶ The most knowledgeable Sales Professionals
- ▶ Hands-on demos
- ▶ Convenient free parking available

Subscribe to our
free Catalog
BandH.com/catalog
212-444-6633



Canon Digital Rebel T5i DSLR

- 3.0" Vari-Angle Touchscreen LCD
- Uses Canon EF Lenses (1.6x factor)
- SD/SDHC/SDXC Card Slot
- STM Lens Support for Quiet AF in Movies
- Full HD 1080 Video with Continuous AF
- ISO 100-12800, Expandable to 25600



18 Mega Pixels

\$100
REBATE!

Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Kit with 18-55mm IS STM #CAEDRT5IK	849.99	\$100	749.99
T5i Kit with 18-55mm IS II #CAEDRT5K	549.99	\$100	449.99
T3i Kit with 18-55mm IS #CAEDRT3IK			

Canon EOS-70D DSLR

- Dual Pixel CMOS AF with Live View
- DIGIC 5+ Image Processor
- SD/SDHC/SDXC Card Slot
- Uses Canon EF & EF-S Lenses
- 3.0" Vari-Angle Touchscreen
- 7 fps Continuous Shooting
- Built-In Wireless Connectivity
- Full HD 1080p Video



20 Mega Pixels

\$100
REBATE!

Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #CAE70D	1,199.00	\$100	1,099.00
Kit with 18-55mm STM #CAE70D1855	1,349.00	\$100	1,249.00
EOS 60D Body Only #CAE60D			
EOS 60D Kit with 18-135mm IS #CAE60D18135			

Canon EOS-7D Mark II DSLR

- 3" Clear View II LCD • Native ISO 16000
- Dual Pixel CMOS AF with Live View
- Dual CF and SDHC/XC Card Slots
- Continuous 10 fps Shooting
- Built-In GPS Receiver & Digital Compass
- Full HD 1080p/60 Video & Movie Servo AF



20 Mega Pixels

	Price	Rebate	Final Cost
Body Only #CAE7D2	1,799.00		
EOS 7D Body Only #CAE7D			
EOS 7D Kit with 18-135mm IS #CAE7D18135			
EOS 7D Kit with 28-135mm IS #CAE7D28135			

▶ Canon SLR Lenses and Flashes

Rebates (Mail-in) Expire 2-28-15 — Call for Current Rebates & Promotions

EOS Flash System	MAP	Rebate	Final
270EX II	169.99		
320EX			
430EX II	299.99		
600EX-RT	549.99		
MR-14EX II Ringlight	549.99		
MT-24EX Twin Flash	829.99		

EF-S Digital Lenses	MAP	Mail-in Rebate	Final
24/2.8 STM (52ø)	149.99		
60/2.8 USM Macro (52ø)	469.99		
10-18/4.5-5.6 IS STM (67ø)	299.00		
10-22/3.5-4.5 USM (77ø)	649.99		
15-85/3.5-5.6 IS USM (72ø)	799.99		
17-55/2.8 IS USM (67ø)	879.99		
17-85/4-5.6 IS USM (67ø)	CALL		
18-55/3.5-5.6 IS (58ø) II	199.99		
18-135/3.5-5.6 IS (67ø)	499.99		
18-200/3.5-5.6 IS (72ø)	699.99		
55-250/4-5.6 IS USM II (58ø)	249.99		
55-250/4-5.6 IS STM II (58ø)	299.99		

EF Lenses	MAP	Mail-in Rebate	Final
20/2.8 USM (72ø)	539.99		
24/2.8 IS USM (58ø)	599.99		
28/1.8 USM (58ø)	509.99		
28/2.8 IS USM (58ø)	549.99		
35/2 IS USM (67ø)	599.99		
40/2.8 STM Pancake (52ø)	199.99		
50/1.8 II (52ø)	125.99		
50/2.5 Macro (52ø)	299.99		
50/1.4 USM (58ø)	399.99		
MP-E 65/2.8 1x-5x Macro (58ø)	1,049.00		
85/1.8 USM (58ø)	419.99		
100/2 USM (58ø)	499.99		
100/2.8 USM Macro (58ø)	599.99		
400/4.0 DO IS II USM (52ø)	6,899.00		
24-105/3.5-5.6 IS STM (77ø)	599.00		
28-135/3.5-5.6 IS USM (72ø)	CALL		
70-300/4-5.6 IS USM (58ø)	649.99	\$250	399.99**
70-300/4.5-5.6 DO IS USM (58ø)	1,399.00		
75-300/4.0-5.6 III (58ø)	199.99		
75-300/4.0-5.6 III USM (58ø)	234.99		

Canon EOS-6D DSLR

- Full-Frame CMOS Sensor • 3.0" LCD
- DIGIC 5+ Image Processor
- Uses Canon EF Lenses
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi and GPS Connectivity
- Full HD 1080p with Manual Controls
- Extended ISO Range of 50-102400
- Up to 4.5 Full Resolution FPS
- Built-In HDR & Multiple Exposure Modes



20 Mega Pixels

\$300
REBATE!

Rebates (Mail-in) Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #CAE6D	1,899.00	\$300	1,599.00
Kit with 24-105mm f/4 L #CAE6D24105	2,499.00	\$300	2,199.00

Canon EOS-5D Mark III DSLR

- 3.2" Clear View High Resolution LCD
- DIGIC 5+ Image Processor
- 61-Point High Density AF
- Uses Canon EF Lenses
- Dual CF, SD Card Slots
- Full HD 1080/30p & 720/60p Formats
- Extended ISO Range (50-102400)
- Built-In HDR & Multiple Exposure Modes



22 Mega Pixels

\$300
REBATE!

Rebates (Mail-in) Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #CAE5D3	3,399.00	\$300	3,099.00
Kit with 24-105mm L IS #CAE5D324105	3,999.00	\$300	3,699.00

Canon EOS-1Dx DSLR

- Dual DIGIC 5+ Image Processors
- Magnesium Alloy Body
- Eye-Level Pentaprism Viewfinder
- 3.2" LCD Monitor
- Uses Canon EF Lenses
- Dual CF card slots
- 1920 x 1080 HD Video Capture
- Live View Still and Video Recording
- 61-Point High Density Auto Focus



18 Mega Pixels

Body Only #CAE1DX*.....5,999.00



TSE MF Lenses	MAP	Rebate	Final
17/4.0 L	2,249.00		
24/3.5 L II	1,999.00		
45/2.8	1,399.00		
90/2.8	1,399.00		

EF "L" Lenses	MAP	Mail-in Rebate	Final
14/2.8 USM II	2,249.00		
24/1.4 II (77ø)	1,649.00		
35/1.4 USM (72ø)	1,479.00		
50/1.2 USM (72ø)	1,549.00		
85/1.2 USM II (72ø)	2,099.00		
100/2.8 IS USM Macro (67ø)	949.99		
135/2.0 USM (72ø)	1,049.00		
180/3.5 USM Macro (72ø)	1,499.00		
200/2.8 USM II (72ø)	779.99		
200/2.0 IS USM (52ø)	5,999.00		
300/4.0 IS USM (77ø)	1,449.00		
300/2.8 IS USM II (52ø rear)	6,599.00		
400/5.6 USM (77ø)	1,339.00		
400/2.8 IS II (52ø rear)	10,499.00		
500/4 IS USM II (52ø rear)	9,499.00		
600/4.0 IS II (52ø rear)	11,999.00		
8-15/4.0 Fish-eye USM	1,349.00		
16-35/4 IS USM (77ø)	1,199.00	\$50	1,149.00
16-35/2.8 USM II (82ø)	1,699.00	\$100	1,599.00
17-40/4.0 USM (77ø)	839.99	\$100	739.99
24-70/4.0 IS USM (77ø)	999.99	\$100	899.99
24-70/2.8 II USM (82ø)	2,099.00	\$100	1,999.00
24-105/4 IS USM (77ø)	1,149.00		
28-300/3.5-5.6 IS USM (77ø)	2,549.00		
70-200/4.0 USM (67ø)	709.99	\$50	659.99
70-200/4.0 IS USM (77ø)	1,299.00	\$100	1,199.00
70-200/2.8 USM (77ø)	1,449.00	\$100	1,349.00
70-200/2.8 IS II USM (77ø)	2,299.00	\$100	2,199.00
70-300/4.0-5.6 IS USM (67ø)	1,449.00		
100-400/4.5-5.6 IS USM (77ø)	1,699.00	\$200	1,499.00

EF Teleconverters	MAP	Rebate	Final
1.4x III	449.99		
2x III	449.99		

** with purchase of EOS-6D, 7D, 7D mkII, 70D, or 60D

Nikon D3300 DSLR

Rebates Expire 2-28-15

- EXPEED 4 Image Processor
- Full HD 1080p Video Recording
- 3.0" LCD • 5 fps Shooting
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Expandable ISO 25600
- Easy Panorama Mode and Guide Mode
- Nikon Inc. limited warranty included



	Price	Rebate	Final Cost
D3300 is available in Black, Grey or Red			
Kit with 18-55mm VR II #NID33001855*	646.95	\$150	496.95
D3200 Kit Black w/18-55mm VR #NID32001855*.....	529.95	\$80	449.95

Nikon D5500 DSLR

- EXPEED 4 Image Processor
- Full HD 1080p Video at 60 fps
- 3.2" Vari-Angle Touchscreen
- Uses Nikon AF Lenses (1.5x factor)
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi • ISO 100-25600
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
D5500 18-55 Kit is available in Black or Red			
Kit with 18-55mm VR II #NID55001855*.....	999.95	—	—
D5300 Kit w/18-55mm VR II #NID53001855*.....	896.95	\$100	796.95
D5200 Kit with 18-55mm VR #NID52001855*.....	799.95	\$150	649.95

Nikon D7100 DSLR

- Magnesium Alloy Body
- Moisture Resistant
- EXPEED 3 Image Processor
- 1080p Full HD Video Capture
- Accepts Nikon AF Lenses (1.5x factor) • 3.2" LCD
- Dual SD/SDHC/SDXC Card Slots
- Built-In Flash with Commander Function
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID7100.....	1,199.95	\$200	999.95
Kit with 18-140mm VR DX #NID710018140.....	1,696.95	\$400	1,296.95

Nikon D750 DSLR

- FX-Format (Full-Frame) CMOS Sensor
- Uses Nikon AF Lenses • 3.2" Tilting LCD
- EXPEED 4 Image Processor
- SD/SDHC/SDXC Card Slot
- Built-In Wi-Fi Connectivity
- Full HD 1080p Video Recording at 60 fps
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID750.....	2,296.95	—	—
Kit with 24-120mm VR #NID75024120.....	3,596.95	\$600	2,996.95
D610 Body Only #NID610.....	1,996.95	\$500	1,496.95
D610 Kit with 24-85mm VRT #NID6102485.....	2,596.95	\$600	1,996.95

Nikon D810 DSLR

- FX-Format CMOS Sensor
- EXPEED 4 Image Processor
- Optical Low-Pass Filter • 3.2" LCD
- CF & SD Dual Card Slots
- Nikon F Mount Lens Mount
- Full HD 1080p Video at 60/30/24 fps
- External Mic and Headphone Inputs
- Continuous Shooting to 5 fps in FX Mode
- Nikon Inc. limited warranty included



Rebates Expire 2-28-15

	Price	Rebate	Final Cost
Body Only #NID810.....	3,296.95	\$300	2,996.95
Kit with 24-120mm VR #NID81024120.....	4,599.95	\$900	3,699.95

Nikon D4s DSLR

- FX-format (full-frame) CMOS Sensor
- 14-Bit RAW Files & 12-Bit RAW S Format • 3.2" LCD
- Full HD 1080p Video at 60 fps
- EXPEED 4 Image Processor
- Compatible with Most Nikkor Optics
- 11 fps Shooting for 200 Shots with AE/AF • ISO 50-409600
- CF Type 1 & XQD Compatible
- 1000 Base-T Gigabit Wired LAN Support
- Nikon Inc. limited warranty included



Body Only #NID4S.....6,496.95

Nikon SLR Lenses and Flashes

Rebates Expire 2-28-15 — Call for Current Rebates and Promotions

Nikon Instant Savings on Lenses with purchase of any Nikon DSLR

AF Flashes	Price	Rebate	Final
SB-300.....	146.95		
SB-500.....	246.95		
SB-700.....	326.95		
SB-910.....	546.95		
R1 Wireless Twin Flash.....			
R1C1 Wireless Twin Flash System.....			



DX ED-IF Lenses for Digital Only	Price	Rebate	Final
10.5/2.8 Fish-Eye.....			
35/1.8 G AF-S (52ø).....	196.95	\$20	176.95*
40/2.8 G AF-S Micro (52ø).....	276.95	\$30	246.95*
85/3.5 G ED VR Micro.....	526.95	\$100	426.95
10-24/3.5-4.5 G AF-S (77ø).....	899.95	\$100	799.95*
12-24/4 G AF-S (77ø).....			
16-85/3.5-5.6 G AF-S VR (67ø).....	699.95	\$100	599.95
17-55/2.8 G AF-S (77ø).....			
18-55/3.5-5.6 G AF-S II (52ø).....			
18-55/3.5-5.6 G AF-S VR (52ø).....	196.95		
18-55/3.5-5.6 G AF-S VR II (52ø).....	246.95		
18-105/3.5-5.6 G AF-S VR.....	396.95		
18-140/3.5-5.6 G AF-S VR **.....	496.95	\$200 **	296.95
18-200/3.5-5.6 G AF-S VR II.....	596.95	\$100	496.95*
18-300/3.5-5.6 G AF-S ED VR (77ø).....	996.95	\$100	896.95*
18-300/3.5-6.3 G AF-S ED VR (67ø).....	896.95	\$100	796.95
55-200/4.5-5.6 G AF-S (52ø).....			
55-200/4.5-5.6 G AF-S VR II.....	346.95	\$200	146.95
55-300/4.5-5.6 G AF-S VR.....	396.95	\$150	246.95



D-Type AF Lenses	Price	Rebate	Final
14/2.8 D ED.....			
16/2.8 D (39ø) with Hood.....			
20/2.8 D (62ø).....			
20/1.8 G AF-S ED (77ø).....	796.95		
24/2.8 D (52ø).....			
24/1.4 G AF-S ED (77ø).....	2,199.95	\$200	1,999.95
24/3.5 D ED PC-E (77ø).....			
28/1.8 G AF-S (67ø).....	696.95	\$100	596.95*
28/2.8 D (52ø).....			
35/2.0 D (52ø).....			
35/1.4 G AF-S ED (67ø).....	1,799.95	\$200	1,599.95
35/1.8 G AF-S ED (58ø).....	596.95	\$100	496.95*
45/2.8 D ED PC-E Micro (77ø).....			



D-Type AF Lenses	Price	Rebate	Final
50/1.8 D (52ø).....			
50/1.8 G AF-S (58ø).....	216.95	\$20	196.95*
50/1.4 D (52ø).....			
50/1.4 G AF-S (58ø).....	484.95	\$85	399.95*
58/1.4 G AF-S (72ø).....	1,696.95	\$200	1,496.95
60/2.8 D Micro (62ø) (1:1).....			
60/2.8 G AF-S ED Micro (62ø).....	599.95	\$100	499.95
85/1.8 G AF-S (67ø).....	496.95	\$50	446.95*
85/1.4 D IF (77ø).....			
85/1.4 G AF-S (77ø).....	1,699.95	\$200	1,499.95*
85/2.8 PC-E Micro (77ø).....			
105/2.8 G AF-S ED-IF VR Micro (62ø).....	984.95	\$185	799.95*
105/2.0 DC D with Hood (72ø).....			
180/2.8 D ED-IF (72ø).....			
200/4 D ED-IF Micro with Case (62ø).....			
200/2 G AF-S ED-IF VR II (52ø).....			
300/4.0 D AF-S ED-IF (77ø).....			
300/2.8 G AF-S VR (52ø-R).....			
500/4.0 G AF-S VR ED (52ø).....			
600/4.0 G AF-S VR ED (52ø).....			
14-24/2.8 G AF-S ED-IF.....	1,996.95	\$200	1,796.95*
16-35/4.0 G AF-S ED VR (77ø).....	1,256.95	\$260	996.95*
17-35/2.8 D AF-S ED-IF (77ø).....			
18-35/3.5-4.5 AF-S G ED (77ø).....	746.95	\$100	646.95
24-70/2.8 G AF-S ED-IF (77ø).....	1,886.95	\$200	1,686.95*
24-85/2.8-4.0 D IF (72ø).....			
24-85/3.5-4.5 G AF-S ED VR.....	596.95	\$100	496.95
24-120/4.0 G AF-S ED VR (77ø).....	1,296.95		
28-300/3.5-5.6 G AF-S ED VR.....	1,046.95	\$250	796.95^
70-200/4.0 G AF-S ED VR (67ø).....	1,396.95	\$200	1,196.95*
70-200/2.8 G AF-S ED-IF VR II (77ø).....	2,396.95	\$300	2,096.95*
70-300/4.0-5.6 G (62ø).....			
70-300/4.5-5.6 G-AFS VR.....	586.95	\$200	386.95
80-200/2.8 D with Collar (77ø).....			
80-400/4.5-5.6 G AF-S ED VR (77ø).....	2,696.95	\$400	2,296.95*
200-400/4 G AF-S ED VR II (52ø).....			
TC-14E III (1.4x) Teleconverter.....			
TC-17E II (1.7x) Teleconverter.....	499.95	\$20	479.95
TC-20E III (2x) Teleconverter.....	549.95	\$50	499.95

* Stand Alone Rebate, No Purchase of DSLR Necessary

** When purchased with a D3200, D3300, D5200, D5300, D7100

^ When Purchased with D7100, D610, D750, DF, D810 D4s



The Professional's Source™

Over 300,000 products,
at your leisure

www.BandH.com



800-947-9980
212-444-6666

Fax:

212-239-7770

Store & Mail Order Hours:

Sunday 10-5 • Mon.-Thurs. 9-7
Friday 9-1 EST/9-2 DST
Saturday Closed

Upcoming Holiday Schedule

April 3-10 Closed

When in New York,
Visit our SuperStore

420 Ninth Ave.
Corner of 34th Street
New York, N.Y. 10001



We Buy, Sell and Trade
Used Equipment



The Professional's Source™

www.BandH.com

When in New York,
Visit our SuperStore

420 Ninth Ave.
Corner of 34th Street
New York, N.Y. 10001



- ▶ Over 70,000 square feet of the latest gear
- ▶ The most knowledgeable Sales Professionals
- ▶ Hands-on demos
- ▶ Convenient free parking available

Subscribe to our
free Catalog
BandH.com/catalog
212-444-6633



Canon Powershot G16

- 3.0" LCD • Full HD 1080/60p Video
- 5x Optical Zoom • 4x Digital Zoom
- 6.1-30.5mm f/1.8-2.8 (35mm equiv: 28-140mm) • SD/SDHC/SDXC Card Slot
- Enhanced Wi-Fi Capabilities
- Continuous Shooting at 9.3 fps

#CAPSG16.....499.99**Less \$50 Rebate....449.99**



12 Mega Pixels

FUJIFILM X30

- 2.8" LCD • Die-Cast Magnesium Alloy
- Full HD 1080 Video at 60fps
- 4x Optical Zoom • ISO 100-12800
- 7.1-28.4mm f/2-2.8 (35mm equiv: 28-112mm) • SD/SDHC/SDXC Card Slot
- Film Simulation and Advanced Filters

Black or Silver #FUX30*



12 Mega Pixels

Nikon Coolpix A

- 3.0" LCD • No Optical Low-Pass Filter
- Manual Focus Ring Adjustment
- 18.5mm f/2.8 (35mm equiv: 28mm)
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video with Stereo Sound
- Capture Photos in RAW Format

Black or Silver #NICPA*.....**1,099.95**



16 Mega Pixels

OLYMPUS Stylus XZ-2 iHS

- 3.0" Swiveling Touchscreen LCD
- 4x Optical Zoom • 2x Digital Zoom
- 6-24mm f/1.8-2.5 (35mm equiv: 27-108mm) Lens • 11 Art Filters
- SD/SDHC/SDXC Card Slot
- Full HD 1080p Video Recording

#OLXZ2B



12 Mega Pixels

Panasonic Lumix DMC-LX7

- 3.0" LCD • SDHC/SDXC Card Slot
- Full HD 1080 Video Recording
- 3.8x Optical Zoom • 7.5x Digital Zoom
- 4.7-17.7mm f/1.4-2.3 (35mm equiv: 24-90mm) Leica Vario-Summilux Lens
- RAW and RAW+JPEG Recording Options

Black or White #PADMLX7*



10 Mega Pixels

SONY CyberShot DSC-RX100 III

- 3.0" Multi-Angle Xtra Fine LCD
- 2.9x Optical Zoom • 11x Digital Zoom
- 8.8-25.7mm f/1.8-2.8 (35mm equiv: 24-70mm) Carl Zeiss Vario-Sonnar T* Lens
- MS Pro Duo/Pro HG-Duo, SDHC/SDXC Card Slot • Full HD Video • Built-In Wi-Fi with NFC

#SODSCRX100M3



20 Mega Pixels

▶ MEMORY CARDS

CF Compact Flash

	Delkin			Kingston		Lexar		Sandisk		
	500x	700x	1000x	Ultimate 266x	Ultimate 600x	800x	1066x	Ultra 50MBs	Extreme 120MBs	Extreme Pro 160MBs
16GB	29.95	37.95	49.95	—	21.95	33.95	40.95	48.95	29.95	53.95
32GB	44.50	54.99	74.95	89.95	30.95	49.95	46.99	79.99	49.99	83.39
64GB	84.50	72.50	99.95	159.95	49.95	—	72.95	124.00	—	149.00
128GB	—	194.95	214.00	254.95	—	—	194.95	249.98	—	279.95
256GB	—	—	—	—	—	—	399.95	543.91	—	569.95
512GB	—	—	—	—	—	—	899.00	—	—	—

CFast 2.0 High Speed

High-speed file transfer to meet the demands of broadcast, cinema, and photography.

SANDISK

60GB (450mb/s)....**399.95**
128GB (515mb/s)....**799.95**

LEXAR

32GB.....**179.99** 128GB.....**640.79**
64GB.....**352.43** 256GB.....**1,067.99**

XQD High-Speed for Nikon D4

	Lexar	Sony
	Professional 1333x	N Series 125MBs
32GB	99.95	99.95
64GB	148.95	189.95
		G Series 400MBs
		163.50

SDHC Secure Digital High Capacity

	Delkin	Kingston	Sandisk	
	Pro Class10	Micro Class 4 Mobility	Standard Class 4	Micro Class 4
4GB	7.95	—	4.95	4.75
8GB	9.95	9.41	5.95	5.95
16GB	10.95	9.95	14.95	8.95
32GB	17.95	19.80	15.95	16.95

UHS1 Ultra High Speed

	Lexar	Sandisk		Sony	
	Class 10 400x	Micro 633x	Extreme 80MBs	Extreme Pro 95MBs	Micro 80MBs
8GB	—	—	19.15	—	12.49
16GB	14.95	14.97	23.95	24.95	19.95
32GB	23.95	23.95	34.95	37.95	26.95
64GB	36.95	42.09	66.95	64.95	39.95
128GB	—	81.95	—	137.95	—
256GB	—	171.89	—	—	—
512GB	—	—	—	—	—

Note: Not all devices support SDXC cards

UHS1 Speed Class 3 (U3)

	Delkin	Kingston	Sandisk		Sony
	633x	90MBs	Extreme 60MBs	Extreme Pro 90MBs	95MBs
8GB	17.95	—	—	—	—
16GB	22.95	14.99	—	—	—
32GB	39.95	24.99	—	—	39.95
64GB	79.95	49.95	—	—	75.95
128GB	149.95	—	147.95	—	—
256GB	359.95	—	299.95	—	—
512GB	—	—	599.95	—	—

UHS2

	Delkin	Lexar	Sandisk	
	U3 280MBs	1000x 150MBs	2000x 300MBs	Extreme Pro 280MBs
8GB	—	—	—	—
16GB	64.95	21.24	—	64.99
32GB	114.95	32.75	74.95*	114.95
64GB	—	56.93	127.83*	224.99
128GB	—	99.95	—	—
256GB	—	320.58	—	—
512GB	—	—	—	—

* with UHS-II Reader



Oben™
You're On Steady Ground

Tripods with Ball Head

- Detachable Leg and Column Form Monopod
- Non-Rotating Twist-Lock Legs
- Grooved center column • Bubble Level/s
- Rubber Feet & Retractable Metal Spikes
- Included padded carry bag



Model	Ball Head	Load Capacity	Max. Height	Folded	Weight	SKU #	Price
Anodized Aluminum Tripods							
AT-3421	BA-106T	6.6 lb	59"	16.8"	2.7 lb	#OBAT3421106T	\$159.95
AT-3431	BA-100T	6.6 lb	61.3"	17.3"	3.0 lb	#OBAT3431108T	\$199.95
AT-3441	BA-111T	11 lb	63.4"	17.5"	3.5 lb	#OBAT3441111T	\$249.95
AT-3461	BA-113T	13.2 lb	65.5"	18.1"	3.6 lb	#OBAT3461113T	\$289.95
AT-3481	BA-117T	17.6 lb	67.1"	18.9"	4.5 lb	#OBAT3481117T	\$299.95
6x Carbon Fiber Tripods							
CT-3431	BE-108T	8.8 lb	59.5"	17"	2.5 lb	#OBCT3431108T	\$399.95
CT-3451	BE-113T	13.2 lb	61.3"	17.1"	2.5 lb	#OBCT3451113T	\$479.95
CT-3461	BE-117T	17.6 lb	64.5"	17.4"	3.1 lb	#OBCT3461117T	\$479.95
CT-3481	BE-126T	26.4 lb	68"	18.3"	3.8 lb	#OBCT3481126T	\$499.95
CT-3521	BE-106T	6.6 lb	56.4"	14.8"	2.4 lb	#OBCT3521106T	\$379.95
CT-3531	BE-108T	8.8 lb	60.8"	15.5"	2.5 lb	#OBCT3531108T	\$399.95
CT-3551	BE-113T	13.2 lb	62.4"	16"	2.6 lb	#OBCT3551113T	\$469.95
CT-3561	BE-117T	17.6 lb	64.3"	16.8"	3.1 lb	#OBCT3561117T	\$449.95
CT-3581	BE-126T	26.4 lb	67.9"	16.9"	3.9 lb	#OBCT3581126T	\$369.95



BATTERY GRIPS

- Accepts 2 lithium-ion batteries to effectively double the camera's battery life (Batteries not included)
- The included AA battery holder allows you to use 6 AA batteries for added convenience (except BG-N3)
- Alternate shutter release button, main and sub command dials, and an AE-L/AF-L button are provided to facilitate shooting in a vertical orientation

for Canon 5D Mark III	BG-C9	#VEBGC9	.....	\$99.95
for Canon 5D Mark II	BG-C2	#VEBGC22	.....	\$69.95
for Canon 7D	BG-C4	#VEBGC4	.....	\$64.95
for Canon 70D	BG-C10	#VEBGC10	.....	\$84.95
for Canon 60D	BG-C6	#VEBGC6	.....	\$69.95
for Canon T5i, T4i, T3i, T2i	BG-C5.2	#VEBGC52	.....	\$67.95
for Nikon D7100	BG-N11	#VEBGN11	.....	\$89.95
for Nikon D5300	BG-N13	#VEBGN13	.....	\$59.95
for Nikon D3300, D3200	BG-N12	#VEBGN12	.....	\$59.95
for Nikon D600, D610	BG-N10	#VEBGN10	.....	\$79.95
for Nikon D800, D800E	BG-N7	#VEBGN7	.....	\$89.95

PHOTOGRAPHY ACCESSORIES

impact™

lighting equipment and accessories

Astral Extreme 2 Monolight Portrait Kit

Kit Includes:

- 2 x Astral Extreme AS-X-400 Monolight
- 10' Air-Cushioned Light Stand
- Luxbanx Small 36" Octagonal Softbox
- Fabric Grid 36" for Luxbanx
- Speed Ring
- Convertible 45" Umbrella - White Satin with Removable Black Backing

#IMASX400ZLK \$1,124.50

Parabox Speedlight Kit

- 24x36" Parabox Softbox
- Umbrella Bracket with Adjustable Shoe
- 10' Light Stand
- Adjustable Locking Triple Flash Adapter

#IMPBSB2436K \$218.84

FILTERS

BACK-OUT Filters in stock

HOYA

B&H SPECIAL! Buy 3 or more Hoya Filters & Get 10% Off.

	52mm	58mm	67mm	72mm	77mm
UV, Skylight (1B) HMC	16.50	21.50	27.50	29.95	36.20
UV, Skylight (1B) Super HMC	27.89	26.49	33.00	52.95	44.99
Linear Polarizer	16.99	25.00	38.85	36.85	44.90
Circular Polarizer	23.95	29.95	34.95	42.95	38.90
Circular Polarizer HMC	39.95	49.00	55.90	69.00	104.90
"Moose" Warm Circular Polarizer	35.75	39.55	53.90	55.65	91.50
K2 Yel, X0 Yel/Gm, Gm X1, Or G, Red 25A HMC	23.95	28.35	41.95	46.35	60.90
Close Up Set (+1, +2, +4)	39.99	47.35	53.00	63.00	68.00
Close-Up Set HMC (+1, +2, +4)	52.68	64.88	73.00	100.68	145.30
Intensifier - Blue, Green Field, Enhancement (Red)	34.68	39.95	55.08	60.00	71.50
Neutral Density 2x, 4x, 8x HMC	23.88	19.95	36.95	30.99	34.80
Star 6, Star 8	16.89	22.50	43.35	49.90	46.68

heliopan

Made exclusively with glass from Schott (Zeiss) the world's finest optical glass supplier.

	55mm	58mm	67mm	72mm	77mm
Skylight (1B), UV	39.99	41.99	62.99	77.99	89.99
Skylight (1B), UV SH-PMC	72.99	78.99	103.99	131.99	157.99
Circular Polarizer, Slim Circular Polarizer	115.99	121.99	151.99	180.99	195.99
Circular Polarizer SH-PMC, Slim Circ. Pol. SH-PMC	161.99	171.99	214.99	242.99	275.99
#5, #8, #11, #13, #15, #22, 81A, 81B, 81C	49.99	51.99	78.99	96.99	108.99
Digital Filter	176.99	180.99	222.99	261.99	301.99

FILM - B&W AND COLOR

COLOR PRINT

FUJIFILM

Superia	
CA 200 135-24.....	2.79
CH 400 135-24.....	3.49
CH 400 135-36.....	3.99
CZ 800 135-24.....	3.99
Pro	
400H 135-36.....	10.29
400H 120 Roll.....	7.59

Kodak

Gold Max	
GC 400 135-24.....	2.99
GC 400 135-36.....	3.29

Kodak

Ektar	
100 135-36.....	5.50
100 120 Roll.....	4.90
Portra	
160 135-36.....	6.99
160 120 Roll.....	5.50
160 220 Roll.....	14.70
160 220 PP (5).....	73.50
400 135-36.....	7.35
400 120 Roll.....	5.79
400 220 Roll.....	15.19
400 220 PP (5).....	75.95
800 135-36.....	9.99
800 120 Roll.....	10.79

COLOR SLIDE

FUJIFILM

Provia	
RDP 100F 135-36.....	9.95
135-36PP (5).....	49.75
RDP 100F 120 Roll.....	7.19
135-36PP (5).....	35.95
Velvia RVP	
Pro 50 135-36.....	11.69
Pro 50 120 Roll.....	8.55
100 135-36.....	10.64
100 120 Roll.....	7.69

PROCESSING MAILERS

FUJIFILM

Slide	
36 Exposures (35mm).....	10.59
Print	
Print C41 35mm.....	13.49
Print C41 120 Roll.....	15.49
Print C41 220 Roll.....	30.95

B+W

B&H SPECIAL! Buy 3 or more B+W Filters & Get 5% Off.

	55mm	58mm	62mm	67mm	72mm	77mm
UV Haze SC	18.50	24.95	28.99	31.95	34.00	39.99
UV Haze MRC 010M	35.50	31.50	36.30	42.90	49.89	71.75
Circular Polarizer SC	83.95	85.95	83.50	80.00	73.95	99.00
Circular Polarizer MRC	78.00	87.53	82.50	109.99	89.99	119.99
Circular Polarizer Slim	56.95	49.99	68.00	69.99	59.99	80.00
Skylight KR1.5 (1A)	24.50	25.95	31.95	38.95	42.00	53.95
Digital Pro UV MC	41.95	41.95	44.00	—	—	—
Graduated (N.D. & Colors)	99.95	106.95	99.50	109.50	142.50	152.95
Neutral Density 106	56.00	60.95	97.95	105.95	121.95	137.95
Close-Up Lenses 1, 2, 3, 4, 5	25.95	25.95	31.95	38.95	45.95	53.95

TIFFEN

Digital Essentials Kits In Stock

Ten-Year Warranty Made in USA

DIGITAL HT FILTERS

	52mm	58mm	62mm	72mm	77mm
812 Warming	48.95	74.95	99.95	109.95	129.95
Grad ND 0.6	74.95	63.95	82.90	119.95	139.95
Circular Polarizer	74.10	89.95	119.90	129.95	199.99
Ultra Clear	34.95	38.95	45.95	54.95	54.95
Haze 86	38.95	47.95	56.90	64.95	99.95
ND 1.2	41.50	56.95	74.90	109.95	129.95
ND 0.6	48.95	50.95	69.95	99.95	119.95
Soft FX3	56.95	63.95	82.90	119.95	139.95
Star 4 pt 2	64.95	56.95	74.90	109.95	129.95

Upcoming Holiday Schedule

April 3-10 Closed

When in New York,
Visit our SuperStore

420 Ninth Ave.

Corner of 34th Street
New York, N.Y. 10001



We Buy, Sell and Trade
Used Equipment



Figure Study ▲

Model Joan Paul was photographed by Jon Abbot, a professional photographer, in his New York City studio using an 8x10 Eastman Studio View camera and a 14-inch f/6.3 Ektar lens on Daylight Ektachrome film. Three Ascor flash units provided the lighting. Abbot used a CC10 color filter and an exposure of f/11.

60 YEARS AGO

Austrian photographer Ernst Haas was profiled in a 14-page color and black-and-white feature spread.

Art Appreciation ▼

These two soldiers show an obvious appreciation of art in this candid shot by Major Leslie Wood. Winner of a prize in an Inter-service



photo contest, this picture appeared in a feature offering tips on how to win contests using unusual approaches, geared to the 1955 *Popular Photography* contest announced in this issue.



View from Below ▲

The work of amateur Bob Mentken was featured to show the variety of images available to an alert, imaginative photographer within his neighborhood. Here, Mentken pointed his Rolleiflex upward to capture a striking design—an apartment building in New York as seen from below.

Comedic Lullaby ▼

Pro photographer Harvey Shaman captured the length a babysitter has to go when entertaining a friend's child as a favor. The trombonist was played by comedian Orson Bean and his appreciative audience was Jaye Smith. —**Harold Martin**



The leader of tripod head design for over 45 years creates a new revolutionary **Knobless** ballhead. It's called **Knobless** because the traditional locking knobs have been removed. Equipped with our patented (planetary) p-system, ARCA-SWISS **p** is a unique tripod head design that combines precision, ease of use, and a powerful, concentric, uniform locking force. Featuring our patented gravitational force compensation, sudden camera movements altering camera position are prevented. The ARCA-SWISS **p** is stylish, precise and strong, yet weighs under 10 ounces. A hand of steel in a velvet glove!



ARCA-SWISS INC
Phone: 480 755-3364
E-mail: support@arca-swiss.com

ARCA-SWISS monoball® p series



Photographer's Forum magazine and SIGMA present the

35th ANNUAL SPRING PHOTOGRAPHY CONTEST

**Over \$7,500
in cash and
equipment
awarded!**



FIRST PLACE GRAND PRIZE

\$2,000 cash award from
Photographer's Forum PLUS
• Sigma 35mm F1.4 DG HSM |
Art lens (\$899)*
• Chimera OB2 PRO Kit #6024
(\$399)

WINNING PHOTOS
will be published in the
November 2015 issue of
Photographer's Forum.
All contest finalists will be
published in the hardcover book,
Best of Photography 2015.

SECOND PLACE

\$1,500 cash award from
Photographer's Forum PLUS
• Sigma 18-35mm 1.8 DC Art lens
(\$800)*
• Manfrotto Pro Light Camera
Backpack. (\$279.99)

FEES, DEADLINES
Early Entry fee is \$4.95 per
photo entered (postmarked or
uploaded by **April 13, 2015**).

THIRD PLACE

\$1,000 cash award

Regular Entry fee is \$5.95 per
photo entered (postmarked or
uploaded by **May 18, 2015**).

FOURTH PLACE

Five \$125 awards

ENTER ONLINE at:
pfmagazine.com/pp

100 HONORABLE MENTIONS

Honorable Mentions will receive a
gold-embossed certificate of merit
from **Photographer's Forum** and
will be listed in the November 2015
issue of the magazine.

Visit Photographer's Forum
at www.pfmagazine.com/pp

Visit SIGMA at
www.sigmaphoto.com

PARTICIPATION GIFT

All US and Canadian entrants will
receive **Two Free Issues** of
Photographer's Forum Magazine.

- Finalists notified by July 27, 2015.
- Winners notified by Aug. 10, 2015.

TO ENTER BY MAIL:

- Enter BW or color prints or
slides. **Do not send disks.**
- Prints must be unmounted
9x12 or smaller.
- Label every photo with your
name and address, and indicate
which edge is the top.
- All entries must include payment,
entry form, and photographs.
- Enclose a self-addressed,
stamped envelope for return of
work. Work will be returned
after 9/01/2015.
- Rights remain with photographer.
- Subject matter is open.

* Lens award for US residents only. First and Second Place winners in all other
countries will receive additional award of \$500 in lieu of lens.

**Over \$250,000 Cash Prizes
Awarded Since 1980!**

ENTRY FORM

☐ YES! I would like to enter the contest. I am enclosing \$4.95 per
photo entered (early entry date), or \$5.95 per photo entered (final
entry date). Please consider my work for publication in future issues
of **Photographer's Forum** magazine. Please send me the next two
issues of **Photographer's Forum** (US & Canada only).

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____ PHONE _____

E-MAIL _____

☐ Check or money order enclosed (U.S. funds only), made payable to Photographer's Forum.

☐ MASTERCARD ☐ VISA EXP. DATE _____

ACCOUNT NO. _____

CARDHOLDER SIGNATURE _____

To enter by mail, send prints or slides to **Photographer's Forum**,
813 Reddick Street, Dept. 1, Santa Barbara, CA 93103.
Photographer's Forum reserves the right to publish all contest
winners and finalists. Although caution will be exercised with all
work, **Photographer's Forum** is not responsible for damage.

Jim Cline

PHOTO TOURS

Small Group Sizes!

- Machu Picchu
- India Pushkar Fair
- Day of the Dead
- Angkor Wat
- Vietnam
- Philippines
- Myanmar
- Guatemala

www.JimCline.com
877-350-1314

TURN YOUR PHOTOS INTO GREETING CARDS!

Step 1:
Simply peel adhesive
liner and place photo
behind window.

Step 2:
Fold to conceal
back of photo.

Step 3:
You've just made a
beautiful matted photo
greeting card!

For personal use or as a business
opportunity. Professional, quick and
affordable in over 500 designs.

Contact us for a free catalog.
25% off for first time customers.

PHOTOGRAPHER'S
Edge
Your image | our frame | a lasting impression

www.photographersedge.com
800-550-9254

WWW.CAMBRIDGEWORLD.COM

New, Used, Refurbished, Preowned Collectables At Discounted Prices
We Buy, Trade, Export, Import Anything Photographic, Online Sales & Wholesale
1-800-221-2253 • 1-718-858-5002 • 1-212-675-8600

WE WILL BEAT AND MEET DISCOUNT PRICES!
CALL OR EMAIL US AND WE WILL SAVE YOU \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

NEW DIGITAL & FILM CAMERAS

LENSES, FLASHES, SCREENS
PAPER AND ACCESSORIES

Canon, Casio, Fuji, Hasselblad, Kodak, Leica, Mamiya, Nikon, Olympus, Panasonic, Pentax, Polaroid, Samsung, Sanyo, Sigma, Sony, Vivitar, Etc...

Memory Cards • Delkin, Kingston, Lexar, SanDisk, Nikon
Fuji, Olympus, Sony, Panasonic, Etc.....**CALL**

Large selection of BATTERIES available at discount prices...**CALL**

LARGE SELECTIONS OF NEW AND USED CLASSIC CAMERAS

LENSES AND ACCESSORIES IN STOCK AT LOW DISCOUNT PRICES!

Agfa, Alpa, Anso, Arca-Swiss, Bolex, Bronica, Canon, Contax, Contarex, Edixa, Exa, Exakta, Fuji, Fujica, Gami, Hasselblad, Kodak, Konica, Kowa, Leica, Leitz, Linhof, Mamiya, Mercury, Minolta, Minox, Miranda, Nikon, Nikons, Olympus, Pentax, Petri, Plaubel, Polaroid, Praktina, Praktina, Retina, Revere, Ricoh, Robot, Rollei, Rollei, Sea & Sea, Stereo Realist, Tessina, Topcon, Toyo, Voigtlander, Wollensak, Yashica, Zeiss, Etc.

for the iPhone & Samsung Galaxy
includes the iPhone
4, 4s, 5 & 5S & Samsung Galaxy S4 as well as the iPad2, iPad Mini, Mini Retina & iPad Air too.
● High Resolution Top Quality Lenses
● 2X Telephoto Lens ● Macro Lens
● Wide Angle Lens All for **\$229**

Schneider
25mm T2.1 Xenon FF Lens
35mm T2.1 Xenon FF Lens
50mm T2.1 Xenon FF Lens
75mm T2.1 Xenon FF Lens
100mm T2.1 Xenon FF Lens

LENSES

We Offer MORE THAN 1,000 DIFFERENT LENSES AT LOW DISCOUNT PRICES!!!
Canon, Cosina, Nikon, Pentax, Olympus, Leica, Sony, Minolta, Vivitar, Schneider, Mamiya, Hasselblad, Rodenstock, Zeiss, etc.

SIGMA		LENSES FOR MOST MANUAL & AUTOFOCUS AF CAMERAS	
4.5mm F2.8.....838.95	50mm F1.4.....358.95	8mm F3.5.....199.99	14mm F2.8.....349.99
8mm F3.5.....828.95	50mm F2.8.....234.95	24mm F2.8.....79.95	135mm F3.5.....29.95
10mm F2.8.....998.95	70mm F2.8.....468.95	28mm F2.8.....49.95	135mm F2.8.....49.95
15mm F2.8.....568.95	105mm F2.8.....458.95	35mm F2.8.....39.95	200mm F3.5.....79.95
20mm F2.8.....178.95	150mm F2.8.....688.95	50mm F1.8.....69.95	300mm F5.6.....99.95
24mm F1.8.....388.95	180mm F2.8.....1488.95	50mm F1.4.....189.95	400mm F6.3.....99.95
24mm F1.8.....408.95	300mm F2.8.....2998.95	85mm F1.4.....308.95	500mm F8.....99.95
28mm F1.8.....308.95	500mm F4.5.....4598.95	100mm F3.5.....119.95	500mm F6.3.....124.95
30mm F1.4.....278.95	500mm F4.5-5.6.....478.95	80mm F1.4.....219.95	1000mm F11.....799.95
30 mm F2.8.....174.95	100mm F3.4.....398.95	500mm 1000mm combination.....	
35mm F1.4.....348.95	170mm F2.8-4.5.....458.95	19-35mm F3.5-5.4.....149.95	28-80mm F3.5-5.6.....79.95
60mm F2.8.....278.95	18-35mm F1.8.....748.95	28-105mm Zoom.....99.95	28-210mm F3.5-5.6.....99.95
400mm F5.6.....299.95	28-200mm F3.5-5.6.....238.95	28-300mm F4-6.3.....169.95	35-105mm Zoom.....119.95
85mm F1.4.....848.95	18-250mm F3.5-6.3.....358.95	70-210mm Zoom.....79.95	75-150mm F3.5.....89.95
800mm F5.6.....6098.95	24-70mm F2.8.....798.95	75-150mm F4.5 Macro Zoom Lens.....	89.95
12-24mm F4.5-5.6.....748.95	17-50mm F2.8	50-100mm F3.5-6.6.....109.95	100-400mm F5.6-6.8.....249.95
18-50mm F2.8.....375.95	EX DCOS HSM.....48.95	650-1300mm F8 Long Zoom Lens.....	249.95
8-16mm F4.5-5.6 DC.....618.95	28-70mm F2.8.....318.95	1000-4000mm zoom.....	349.95
28-70mm F2.8-4.....88.95	50-200mm F3.5-6.3.....698.95	1.4X Teleconverter.....	99.95
28-200mm F3.5-5.6.....174.95	50-150mm F2.8.....698.95	2X Teleconverter.....	3X Converter.....69.95
35-135mm F4.5-5.6.....99.95	50-300 F4.5-5.6.....124.95	1.5X Teleconverter.....	1.7X Converter.....99.95
50-150mm F2.8.....968.95	50-160mm F5.6.....138.95	0.42X Fisheye Lens.....	39.95
50-200mm F4.5-5.6.....148.95	70-300mm DGOS.....288.95	0.45X Wide Angle Lens.....	39.95
50-500mm F4-6.3.....948.95	100-300mm F4-5.6.....249.95		
70-200mm F2.8.....188.95	120-300mm F2.8.....2698.95		
70-300 F4.5-5.6.....188.95	150-500mm F5-6.3.....948.95		
200-2.8.....200.00	120-400 F4.5-5.6.....938.95		
100-300mm F4.....1098.95	250-500 F5.6 EX DG.....		
200-500mm F2.8 AP EX DG.....	300-800mm F5.6 EX BE HSM.....		
300-800mm F5.6 EX BE HSM.....	2X AP.....		
1.4X AP.....218.95	2X AP.....		



**PHOTO
WORKSHOPS**
Italy-Maine

Join Photographer/authors Frank Van Riper and Judith Goodman for low-key photo workshops in Italy and Maine. Small class size; individual attention. July and August in Lubec, Maine; October in Umbria; January in Venice.

Go to www.SummerKeys.com or www.GVRphoto.com

The trip of a lifetime from the authors of *Serenissima: Venice in Winter* (www.veniceinwinter.com)

OMNI-BOUNCE

Used by Professionals around the world, to achieve soft natural lighting with most of the popular brand flash units. Ideal for wide angle shots, macro work, portraits and news coverage. Custom mounting with no Velcro required. Specify your strobe when ordering.

Only \$19.95 + \$2.50 shipping,
Visa, MasterCard & AMEX

STO-FEN PRODUCTS
800-538-0730

P.O. Box 7609, Santa Cruz, CA 95061, USA
www.stofen.com



ACRATECH GP Ballhead

- Weighs less than 1 lb (.45kg)
- Solidly holds 25 lbs (11kg).
- Works as a Ballhead, a Gimbal Head and as a Panoramic head.



Made in
the USA.

www.acratech.net
(909) 392-7522

ADVERTISE!

Your Amazing Product or Business in
Popular Photography
contact one of our salesmen today!

★
Shawn Lindeman @ 212-779-5501
Chip Parham @ 212-779-5492
Frank McCaffrey @ 212-779-5510

★
popphoto.com

LAB * ILC TEST OLYMPUS OM-D E-M5 MARK II

CONTINUED FROM PAGE 73

found this useful and it ended up encouraging us to use that feature more, since we didn't have to dig through menus to activate it. Of course, if you don't ever want to use in-camera HDR, you can select another function for the button.

The command-wheel function lever found in the E-M1, which originated in the Olympus Pen E-P5 in a slightly different form, has been added to this body. It lets you assign the command wheels to two sets of functions, such as aperture and exposure compensation control when the lever is set to position one, and later ISO and white balance when the lever is in position two. It can provide a very quick way to get to the settings you change most frequently. Plus, since the camera has an EVF to display the settings, you can easily make those changes without taking your eye away from the finder.

While the original E-M5 had a tilting touchscreen, the Mark II has a 3-inch 1.037 million-dot touchscreen that flips out to the side and swivels up and down and can face fully forward, which might be helpful for selfies.

Focusing speed is about average for an ILC in this class. Tracking autofocus worked well and could keep up with most moving subjects while capturing bursts. In the 5-fps drive mode, you can capture JPEG or RAW shots up to your memory card's capacity when using a UHS-II SD card. If you sacrifice continuous metering and AF for the 10-fps mode, you'll get up to 16 RAW or 19 JPEG frames. With all of this burst action at your fingertips, we do wish that the Mark II had a second SD card slot.

Video capture tops out at 1920x1080 60p with your choice of ALL-I (77Mbps) or IPB (52Mbps,

30Mbps, or 18Mbps) compression. Video we captured looked great. Better still, you can engage the image stabilization system during video capture. Very serious videographers might still want to use an outboard stabilization rig to keep shots ultra smooth, but casual shooters will likely be impressed with how the E-M5 Mark II can keep the jitters out of your home movies.

As usual, Olympus includes an array of scene modes, fun art filters that often outshine Instagram's, and a couple of clever long exposure options called LiveTime and Live Comp. LiveTime lets you watch as a long exposure builds, while Live Comp shoots a series of images and layers in any changes that have occurred.

Thus, when used to capture a scene with a very wide dynamic range, Live Comp can keep bright areas from overexposing, since it is not continually exposing for that portion of the scene. It's a neat trick and can be very useful in light painting. We were so pleased with a few of the light painting shots we captured with it that we used the camera's built-in Wi-Fi to upload them to our smartphone and post them to Facebook immediately after the shoot.

The Bottom Line

If you're a veteran of the Micro Four Thirds world and looking for a small DSLR-style camera body, the Olympus E-M5 Mark II is a wonderful option. It serves up excellent quality images—some of the best that you'll find from this format of sensor. And its weather-sealed body, well-designed controls, and built-in Wi-Fi make it fun and simple to use. Top it all off with a High-Res Shot mode that can produce incredible detail in still-lives, and you have yourself a winner.

—Philip Ryan



TED KINSMAN

INSIDE OUT

Getting to
the bones

TED KINSMAN, a professor at Rochester Institute of Technology, has been teaching scientific photography for 22 years. He has x-rayed many dead animals in the course of his work, so when he found this unlucky turtle on the side of the road, he promptly stashed it in his lab's refrigerator. Kinsman originally planned to reveal the turtle's bones and skull but was surprised on developing his x-ray to find eggs hidden inside the shell. The image originally appeared in *Popular Science* after winning the Photography category for the National Science Foundation's annual visualization contest, the Vissies.

—Sara Cravatts

SIGMA

UNCOMPROMISING.

Quality, reliability and versatility.

The 17-70mm F2.8-4 lens, designed for APS-C format cameras, delivers stunning images in a lens 30% smaller than conventional models.

C Contemporary

17-70mm F2.8-4 DC Macro OS HSM

Case and Hood LH780-03 included.

*OS is not available for Pentax and Sony mount

USA 4 Year Service Protection



SIGMA USB Dock

Update, adjust & personalize. Customization never thought possible. Sold separately.



α

SONY

POWER OF STABILITY

Handheld – α 7 II, 70–300 mm F4.5–5.6 G SSM II lens, 1/4 sec., F8, ISO 100



New for 2015: α 7 II

The future of digital imaging. And the next generation of DSLR.

The α 7 II allows you to take long telephoto shots with slow shutter speeds and smooth, steady video—all without a tripod. Built-in, 5-axis image stabilization fights camera shake in directions that in-lens stabilization can't. Choose from over 60 Sony lenses, or use your favorite non-Sony lens systems* to capture blur-free, 24.3MP images and outstanding 50Mbps video. The future of digital imaging has arrived—and it couldn't be clearer.

sony.com/sonyalpha #sonyalpha



amazon.com



* Compatibility with lenses other than Sony E-mount requires optional adaptors. Function is not guaranteed and may vary by adaptor and lens.

© 2015 Sony Electronics Inc. The Sony logo is a trademark of Sony Corporation. All rights reserved. Reproduction in whole or in part without written permission is prohibited. All other trademarks are trademarks of their respective owners.

The world's first full-frame camera with built-in 5-axis image stabilization.

